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EDITED BY

**G. STANLEY HALL, PH. D., LL. D.**

President of Clark University, and Professor of Psychology and Education.

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# THE PSYCHOLOGY AND PEDAGOGY OF ADOLESCENCE.

By E. G. LANCASTER, Fellow in Clark University.

## INTRODUCTION.<sup>1</sup>

Child-study is perhaps the greatest educational advance of the century and is pregnant with the greatest possibilities. It is now recognized everywhere as fundamentally important in all educational work. The study of adolescence begins to attract general attention and promises to bring in a new era of education in the years between childhood and adult life. If possible, it is more important than child-study, because dealing with a period fraught with greater dangers and larger possibilities than any other period of life. The briefest possible résumé of publications along that line is given here.

The first publication that the writer has seen appeared in the *Princeton Review*, 1882, and later was reprinted in the *PEDAGOGICAL SEMINARY*, Vol. I, No. 2, by President G. Stanley Hall, entitled "The Moral and Religious Training of Children and Adolescents."

President Hall set forth the rational grounds of all moral and religious culture. The infant at first shows its religion in the sentiments directed toward the mother. Religious training should not be forced in the early years. Gradually obedience, truthfulness, love of nature and nature's God lead up to love of the Heavenly Father.

Part II concerns the present study. Dr. Hall says: "Probably the most important changes for the educator to study are

<sup>1</sup> *Acknowledgments.* This study has involved me in deep indebtedness to many people. First of all to Dr. Hall for the subject and constant help, and to the Faculty of Clark University and the University Library. I am also deeply indebted to the Worcester Public Library, and the following persons for groups of returns: To Miss L. A. Williams and students of the New Jersey Normal, Dr. Richardson and students of the Castine (Me.) State Normal; Professor Garman and seniors, and Professor Grosvenor, of Amherst College; Principal T. H. Rhodes and students of the Southern Kansas Academy; Dr. O. Chrisman and students of Kansas State Normal; Dr. G. W. A. Luckey and students of Nebraska State University; Mr. Arthur Nutt, Ohio State University; Miss Georgianna Mendum, New York; Dr. Levermore, Adelphi College, Brooklyn; Mrs. J. H. Baird, Poughkeepsie; Principal Huse, Provo (Utah) Academy; several students of Clark University, and three hundred or more who have sent excellent individual returns. My sincere thanks are tendered to all. E. G. L.

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those which begin between the ages of twelve and sixteen and are completed only some years later, when the young adolescent receives from nature a new capital of energy and altruistic feeling. It is a physiological second birth, and success in life depends upon the care and wisdom with which this new and final invoice of energy is husbanded." It is a correct instinct that emphasizes regeneration. Far more conversions take place during the adolescent period, *pro rata*, than during any other period of equal length.

Before this age the child lives in the present a selfish, frank, obedient, imitative life. Now there is a sudden change in body and mind. Things are seen in new relations. Parents lose the confidential grip on the youth. Education must be addressed to freedom now. Then come longings for sympathy, deep emotions, moods, love of solitude, feelings of rivalry, self-sacrifice, etc.

"It is a period of realization, and hence often of introspection. In healthy natures it is the golden age of life." It is a time of rapid change and dangers and temptations are great. It is the time for the greatest love from the home and the deepest interest from the church. It is the first safe time for a change of heart. Previous forcing only inoculates against deeper religious interest later. The whole period should be one of growth extensively and intensively for the best results of religious culture.

The article contains the germs of the present treatise on adolescence.

"The Study of Adolescence" in the same number of the PEDAGOGICAL SEMINARY (Vol. I, No. 2,) is a thorough and far-reaching presentation by Dr. Burnham, of Clark University. This study, and the above-mentioned by President Hall, have furnished the text, if not much of the sermon, for all that the present writer has seen on adolescence.

Dr. Burnham says: "It has been a world-wide custom to celebrate the advent of adolescence with feasts, ceremonies and mystic rites. Among savages the power unflinchingly to endure pain is the usual test of manhood. The breaking out of a tooth, the stinging of wasps and ants, tattooing with a sharp stone, bleeding, circumcision and the like" are practiced to celebrate the advent of puberty.

"Just as a study of the psychology of childhood is an indispensable part of the preparation of every teacher in the lower grades, so a study of adolescence should form a part of the education of every teacher in the higher institutions."

"The subject should be studied scientifically from the standpoints of physiology, anthropology, neurology and psychology."<sup>1</sup>

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<sup>1</sup>It may be said that this suggestion has been followed. Mr. Yoder,



Dr. Burnham discussed each of these divisions, bringing together much of the valuable data then accessible. He took Clouston's definition of puberty as the "initial development of the function of reproduction" and adolescence "to denote the whole period of twelve years from the first evolution up to the full perfection of the reproductive energy." Under the physiological, Dr. Burnham gave the ordinary physical changes, growth and the relation of growth to disease. Under psychological changes he discussed at length the mental phenomena of the period. It is a time of new sensations, increased psychic manifestations, and often a storm and stress period. He cited characters from literature who illustrate these phenomena.

He gave the results of a study of answers to a syllabus, treating briefly of dreams, health, dress, conscience, growth and the outcrop of ancestral ways at this period.

The morbid and more serious activities were treated briefly. "Life for the first time perhaps begins to look serious. The young man has come into possession of his inheritance from the past."

Cases were given illustrative of the storm and stress, the doubts and intellectual activities of the years 18 to 25. Half or more had this emotional stress period. He also showed the fact that the period might be repeated in later life. Philosophic writings, done by adolescents, as cited by Dr. Burnham, show that "the incentive to philosophic thought generally comes at adolescence."

"Another phase of adolescence is illustrated in the poetry of the romantic school." "In natures where education and hereditary tendencies check emotion's natural outlet in action, emotion itself becomes the aim of life. Shelley, Byron, Novalis, and perhaps both Goethe and Schiller in their younger days, are examples." "It is evident that there is a great evolution of energy at adolescence that must find outlet in some way." "Youth must be given the opportunity to do something." "The grand pedagogical aim should be to utilize the tempestuous emotions of adolescence."

The whole article should be read very carefully by all who wish to study this subject. The writer finds it a mine of suggestion.

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now President of the Vincennes University, has done considerable work on the physiological, including the neurological side, the results of which are as yet unpublished.

Mr. Daniels, whose study will be considered below, worked up the anthropological side. Mr. Starbuck is making a study of the neurological side of adolescence, and the writer attempts to give below some of the characteristics of the mental side, with some reference, at least, to psychology.

The next paper on adolescence appeared in the *American Journal of Psychology*, Vol. VI, No. 1, written by Arthur H. Daniels, at that time Fellow in Clark University. The title is, "The New Life: A Study of Regeneration." The first part is a careful development of the anthropological side of adolescence.

Mr. Daniels gives a résumé of the rites and ceremonies at puberty known to have been practiced by various peoples, such as circumcision, knocking out the teeth, clipping the hair, tattooing, fasting, seclusion, change of name, beating and torture of the most cruel nature.

"The recognition in so many different ways and by almost every race, of the transition from youth to manhood, has a deep psychological as well as physical significance."

He shows that the taboo which has kept back the needed study of this period and a proper understanding of the common events in a boy's or girl's life was as barbarous in its origin as it now is in its practice. Mr. Daniels says: "Reproductive power might be called the 'apperceptive center' about which are clustered the religious thoughts and, indeed, thoughts about the most sacred and mysterious things, of many people." "Coincident with the functioning of new organs, and the development of cerebral centers which have hitherto lain dormant, are profound, intellectual and emotional changes." "The activity of the organs, which connect the individual with the race, is accompanied by powers and instincts which affect his mental life in its various aspects and mark the beginning of a new life intellectually, morally and emotionally."

He quotes extensively from Dr. Burnham's article cited above to show the awakening of intellectual life at puberty.

In the second part Mr. Daniels takes up regeneration, or the new life of the spirit, as a parallel to the physical changes that come at adolescence. "My main thesis is to show that these practices, both of civilized and uncivilized people, are founded on fundamental, physical and psychological principles, and accordingly to emphasize not only the fitness, but also the need of the spiritual change, which theology has formulated in the doctrine of regeneration during adolescent years."

The author gives a few statistics, not very conclusive, to prove the statement of President Hall that conversions are most frequent in the adolescent period. He discusses the relation between morbid religious conditions and immorality, the naive religious life that grows up naturally to adolescence when there comes a break with the past and there "is need of a new consciousness of God." From this point the discussion is on theology rather than adolescence.

He gives a bibliography of 58 titles, which includes much of the literature on the physical side of adolescence.



"A Study of Conversion," by Mr. Starbuck, Fellow in Clark University, appeared in Vol. VIII, No. 2, of the *American Journal of Psychology*.

The religious element is not by any means characteristic of adolescence, but has often been noticed as occurring most frequently at that time. Mr. Starbuck shows in another paper (at this writing not published) that out of many hundreds of cases of conversion, the greatest number of cases occurs at about sixteen and the average age at nearly the same time. The curve rises rapidly from twelve to sixteen and falls quite rapidly from sixteen to twenty.

I quote from Mr. Starbuck a few passages which bear on adolescence: "The period of adolescence is naturally the time for the awakening into the larger life. It begins at puberty." "Many were left out of the study because they had clearly been forced into compliance with what they were not ready intelligently to accept. They were pulled green and withered." "It is like pulling away the folds of a growing bud to disturb unduly the tender unfolding of the religious nature."

"The hardened natures who need the help of violent methods for restoration are the last to respond, and meanwhile much harm is done to those who are receptive and responsive to finer influence."

"The higher motives should be appealed to more and the lower ones less. It is doubtless entirely out of proportion that one-third of the subjective forces present at conversion were self-regarding (mostly fears) while the number of distinctly altruistic motives" were one-ninth.

In Vol. IX, 1895, of the *Educational Review*, p. 135 ff., appeared an article by W. B. Jacobs, of Brown University, on "Values in Secondary Education." It is a strong attack on the Committee of Ten for neglect of adolescent psychology in their construction of curricula. He uses the facts given in the above noticed articles on adolescence with telling effect. He shows how adolescence must be studied and understood before curricula can be safely laid out, or the question of coeducation settled or the question of what is valuable in High School years or what is injurious can be determined.

The study of adolescence has attracted the notice of educators as evinced by this article of Jacobs and the following from the Report of the Committee of Fifteen, found also in the Report of Education, 1893-4, Vol. I, p. 485.

#### "THE SCIENCE OF TEACHING.

The elements of this science are:

I. Psychology in its physiological, apperceptive and experimental features. The period of adolescence here assumes

the prominence that childhood has in the psychological study preparatory to teaching in lower schools. This is the period of beginnings, the beginning of a more ambitious and generous life, a life having the future wrapped up in it; a transition period of mental storm and stress in which egoism gives way to altruism, romance has charm, and the social, moral and religious feelings bud and bloom. To guide youth at this formative stage, in which an active fermentation occurs, that may give wine or vinegar, according to conditions, requires a deep and sympathetic nature and that knowledge of the changing life which supplies guidance wise and adequate."

These suggestions have received far too little notice from teachers, probably because the psychology of adolescence is not widely known, and there is almost no literature on the subject.

In No. VIII of "Studies in Education," by Earl Barnes, of Stanford University, is a short article on "Sex-information" with a carefully selected bibliography of the literature intended to give such information. It should be consulted for the literature on adolescence. In addition to the above there is much literature that moralizes on the training of young people and freely "sheds advice," but cannot be recommended for a scientific study of this much misunderstood period of life.

Clouston, in Hack Tuke's Dictionary of Psychological Medicine, Vol. I, pp. 360 to 371, gives a general statement of the physiological psychology of adolescence from the medical standpoint.

The qualities and characteristics of a human brain are greatly different in childhood, puberty, early and later adolescence. The brain is liable to different diseases at these different stages. There is no period of life when uncomplicated insanity occurs more frequently than from 21 to 25. 78 per cent. of the cases of insanity of adolescence are those of mania, while most of the others are melancholia. He discusses the symptoms and meaning of disease at this period, the treatment, and the normal psychology of adolescence.

Madden, in Keating's Cyclopedic of the Diseases of Children, Vol. I, pp. 389 to 416, gives valuable results of many years of study of puberty, the time of its occurrence, and hygienic treatment. Ill fed children cannot endure mental strain at this period. Female diseases are mostly sown at puberty. Musical stimulation several hours a day is doubtful in its moral value. He gives rare and precocious cases of puberty.

There are many articles scattered through medical literature, but these are sufficient for an introduction to that literature.



## CHAPTER I.

The hope of Truth grows stronger day by day ;  
 I hear the soul of Man around me waking  
 Like a great sea, its frozen fetters breaking,  
 And flinging up to heaven its sunlit spray,

And every hour new signs of promise tell  
 That the great soul shall once again be free,  
 For high, and yet more high, the murmurs swell  
 Of inward strife for truth and liberty.

—LOWELL. *Sub Pondere Crescit.*

The growing interest in adolescence is one of the "new signs of promise" that a greater freedom, and a love and sympathy hitherto unknown, shall become the inheritance of all young people.

Savage tribes have long observed the period as one demanding special treatment, and enlightened people have expressed deep concern for young people at this age, but in both cases youth suffer because they have been misunderstood.

Many of the methods which have been so fruitful in the study of the child should be used to mass records, observations and data of all kinds regarding the adolescent period.

To allow young people to express their own feelings and opinions, a syllabus on Adolescent Phenomena in Body and Mind, prepared by President G. Stanley Hall and the writer, was addressed to persons between the ages 12 and 25, and to teachers and parents for observations or reminiscences, asking for full and free replies.

They came, evidently from full hearts. 827 have been received, some taking 75 pages of foolscap for one individual return. These answers have been grouped and condensed and the results will be given, first with little comment, followed by a more complete discussion.<sup>1</sup>

For a better presentation the order of the syllabus will be changed here. The syllabus will be given one section at a time for closer connection with the statements of results.

## I. PHYSICAL CHANGES.

Physical adolescence begins with puberty,<sup>2</sup> which in turn

<sup>1</sup> A book of these condensed returns may yet appear as a heartfelt appeal to parents and educators.

<sup>2</sup> See Biérent, "La Puberté," Paris, 1896, pp. 200, with bibliography of 65 titles giving physical and medical literature mostly in French.

begins with certain internal developments followed by the external phenomena which indicate the advent of puberty.

Beneke says,<sup>1</sup> that from birth to the end of puberty a complete conversion of the relation existing between the size of the heart and the width of the arterial system of vessels takes place. In childhood the heart is relatively small against relatively large arteries. It remains much the same till puberty.

With growth in the length of the body this relation is reversed in consequence of a sudden increase in the amount of blood which demands increased work of the heart and therefore increases rapidly the size of the heart with a relatively small growth of the arteries in cross section. This new relation is permanent.

In childhood the relation of the heart to the arteries is as 25 to 20. Before puberty this becomes 140 to 50, and in full maturity 290 to 61. The blood pressure is therefore far lower in childhood and very much higher in adolescence. An exception occurs in the pressure of blood in the lungs which is slightly lower in the adult. The blood pressure is, then, lower while the brain is growing and higher after it has reached its maximum size. This change of blood pressure is therefore one of the first signs of approaching puberty.

There is a slight increase in the temperature of the body at puberty which indicates unusual chemical activity. There is, too, an increase of red corpuscles in the blood which makes anæmia especially dangerous at this period.

No one knows as yet what changes occur in the brain. The weight has nearly reached its maximum years before.<sup>2</sup>

It is thought that there is a large increase of association fibers and medullation of fibers which shows their maturity.

Externally there is with girls the periodic sickness as a definite sign of puberty, when it occurs normally, followed by rapid maturity of the body as a preparation for motherhood. The figure rounds out, the bust develops and the bones in the pelvis change rapidly. The change in the angle of the vertical axis of the pelvis is one of the first developments which, with the rapid growth of the hip bones, makes the girl taller about 13 than the boy, when standing. "This affects the length of the step and position of the body,"<sup>3</sup> and causes an awkward movement in walking. Running becomes very difficult. The art of graceful walking or running must be acquired anew. Ascending stairs becomes especially difficult with girls who are best developed.

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<sup>1</sup> Ranke, *Grundzüge der Physiologie des Menschen*, S. 491 ff.

<sup>2</sup> Donaldson, "Growth of the Brain."

<sup>3</sup> See Dornblüth, "Die Gesundheitspflege der Schuljugend," pp. 145-154.



Growth of the thigh bones may be so rapid at this period, with both sexes, that the muscles cannot keep pace with them and the result is a stretching of the muscles, causing "growing pains." These are often severe. The returns show this phenomenon only with boys. It doubtless may exist in both sexes. On the other hand, the muscular system may grow faster than the bones and the boy becomes clumsy. He cannot control his movements easily and runs against everything, drops whatever he touches and tumbles over it in trying to pick it up.

For exact data the following questions were asked in the syllabus. 341 males and 446 females answered part or all of it.

*Growth generally.* When was growth in height or weight greatest? Was this period of growth attended by better or deranged health? Give any details; as to how much, where, how long, etc.

187 persons answered this section of the syllabus. Of these 139—48 M., 91 F., said that they grew most rapidly in height just after puberty, while 48—10 M., 38 F., grew at or before puberty, or were indefinite in answer.

These answers brought out clearly a relation between growth and health not mentioned before. 133 of these report health better or undisturbed by the rapid growth and advent of puberty. 38 report health poor and 3 report great weakness. The rest of the 187 are not definite. It will be noticed that these numbers correspond roughly to the numbers who grew after and before puberty.

A careful study of this point, based on these returns, indicates that the period of most rapid growth in height and weight comes normally after puberty. If this rapid growth comes before puberty, health may be endangered while growing or at puberty or at both times.

The figures are certainly significant.

Most rapid growth at or before puberty and health good, 2 M., 10 F.

Most rapid growth at or before puberty and health poor, 3 M., 36 F.

Most rapid growth after puberty and health poor, 1 M., 11 F.

Most rapid growth after puberty and health good or improved, 17 M., 80 F.

Thus 8 to 1 have good health at time of growth and puberty if the rapid growth is after puberty, while over 3 to 1 have poor health if the rapid growth comes at or before puberty. This, of course, does not mean that for a year or two before puberty there may not be an accelerated growth without danger, but to shoot up to nearly the full stature as they often do safely after puberty, is dangerous before puberty.

Taking the number that report the time of the most rapid

growth by years, the years range from 9 to 19, with the following number of cases reporting for each year, respectively: F., 5, 11, 17, 41, 45, 57, 51, 29, 10, 6, 3. That is, 5 at 9, 11 at 10, 17 at 11, 41 at 12, etc.

The curve would thus culminate at the age of 14, which is very similar to the curve of Key. The curve for boys culminates at 15 to 16.

In weight the greatest growth in any one year is reported for the years 10 to 23 respectively, as follows: F., 2, 4, 14, 13, 15, 18, 24, 35, 13, 8, 6, 4, 2, 1.

The curve of growth in weight culminates two or three years after the curve of growth in height. With boys the growth in height was greatest at 15 and 16, in weight at 16, 17 and 18. The number of boys answering this question is too small to be very significant.

According to Key's law, the period of maximum growth is the period of maximum power to resist disease.

These returns show that extreme growth in height at any time is likely to be accompanied by ill health or great weakness. This liability is less if there is a good increase of weight at the same time. Growth in weight after puberty is generally accompanied by good health. A large and rapid increase of weight before puberty is likely to be accompanied with ill health.

This relation of growth to health, as pointed out by Key and others, shows the relation of growth to chronic diseases. It does not follow that growth may not be accompanied by weakness or deranged health which may render good work in school or elsewhere almost impossible.

Space will allow only a few typical returns on each section selected from a very large number.

M., 32. At 15 I had to leave school, owing to a peculiar sickness incident to growth. My muscles felt stretched, not long enough for the bones. One time I walked two blocks and absolutely could not walk any farther. Quit going to school for a time.

M., 18. Health very good. Dream less and sleep better. Grew rapidly 14 to 16. Troubled by growing pains. Grew in weight 12 to 18 from 98 to 180 lbs.

F., 18. Growth in height was greatest at 14, and in weight at 12. Health was most deranged. Puberty at 12 years and 8 months.

F., 20. Grew tall fastest 9 to 14. Health not so good at this time. Puberty 14 years and 9 months. Health now very good.

F., 17. Grew most rapidly 11 to 13 in height and weight. Head and stomach trouble. Puberty 12.6.

F., 20. I grew the fastest about 15. Greatest increase in weight at 16. Health better than. Health poor during adolescence. Nervous and stomach trouble. Puberty at 15 years and 10 months.

F., 17. Grew in height 12 to 14. Weight 14 to 16. Indigestion and stomach trouble, though general health good. Puberty at 15 years and 9 months.



M., 18. At 15 I was medium height and weighed 110 lbs. Now at 18 I am 6 feet and weigh 170 lbs. Puberty at 14. Health good.

F., 19. Until 15 I was a somnambulist, since then restless. I had dyspepsia for a long time. Have outgrown it. At times have been more nervous since 12. Growth in height greatest at 14. In weight 17 to 18. Growth in height accompanied by deranged health, and I continued in poor health till I grew stouter.

F., 21. Greatest growth in height 16 to 19. I was not so well while growing. Was very small at 16 and grew rapidly. Grew in weight at 18. Puberty at 15.

M., 21. Health was not so good. Nerves and stomach. In 12 months, from 16 to 17, I grew 12 inches. Health not so good that year. Later I grew stronger all over. (Another exactly duplicates this growth, with weakness, but good health.)

F., 18. Grew most 12 to 14. I grew tall and thin and felt weak. Health not so good while growing so fast. Puberty at 13 years and 4 months.

F. I seem now a bundle of quivering nerves, I never get rested. Greatest growth 10 to 12 in height, in weight 15 to 20. Health not so good. Puberty at 15 years and 3 months.

F., 16. At 13 my nerves were affected very badly. Could not attend church for some time or recite in school. Grew in height 13 to 15, weight 15 to 16. Health poorer 13 to 16. Puberty at 13 years and 9 months.

F., 19. I grew rapidly from 13 to 16. It took all my strength and I was tired all the time. Could not get rested. Gained weight at 18. Health better at that time.

F., 19. At 13 not expected to live from chorea. After recovering from that I suffered from sick-headaches. They are becoming less frequent. Grew most rapidly 10 to 14, attended by poorer health. Puberty at 14.

F., 17. Eyes, nerves, head and stomach affected. Appetite not so good. Sleep better. Grew most in height 12 to 13, in weight 14 to 17. When growing in weight my health was not so good. Puberty at 15 years and 1 month.

F., 19. Have been very nervous since 12. Puberty at 14. Grew most 12 to 15. Health was much poorer. Back troubled me. Was sick in bed for a long time at 14.

F., 26. As a child was small and delicate, grew stronger. Increase in height at 13, in weight at 17. Period of rapid growth attended by poor health. I was weak, suffered with severe pains in head, back and legs. Puberty 11.5.

F., 32. Growth in both height and weight was greatest from 16 to 18. Health better at that time.

F., 18. From 15 to 17 I secured my greatest growth, which was attended by poor health, especially being very weak and tired. Puberty 16 years and 2 months.

F., 17. Grew fastest 10 to 12 and it was attended by poorer health.

F. My greatest growth was at 16. I had a long illness of over 21 weeks. When I was taken ill I was small, thin and short. After it I was as tall as I am at present, 5 ft. and 4 inches. Of course I was very thin and frail but I soon filled out and weighed 115 lbs. The first signs of puberty came at 17. It was after that long illness.

*General Health, then and now.* If imperfect, how, respecting eyes, nerves, head, stomach, etc.? Was sleep or dreams, or appetite for food affected?

There were 355 answers to this section. 255—105 M., 150 F.,

report good or better health 12 to 200—100—32 M., 68 F., report poorer health.

The nervous troubles that may develop and the special diseases of adolescence have received careful attention.<sup>1</sup>

The following list of diseases reported to have been outgrown is a long one and admitting mistaken diagnoses is very helpful and valuable. Curvature of the spine, 1 F.; biliousness, 1 M., 1 F.; bad dreams, 3 M., 8 F.; eye trouble, 3 M., 2 F.; 2 cases laid aside spectacles; chorea, 2 F.; gout, 1 F.; heart trouble, 1 F.; headache, 3 M., 8 F.; nervousness, 2 M., 3 F.; stomach trouble, 3 M., 4 F.; rheumatism, 1 F.; chronic sore throat, 1 F.; insomnia, 6 F.; Bright's disease, 2 M.; 2 F.; consumption, 1 F.

On the other side the following diseases developed, as reported in the returns. Spinal trouble, 3 F.; rheumatism, 1 F.; heart trouble, 2 F.; stomach trouble, 3 M., 15 F.; headache, 3 M., 19 F.; bad eyes, 4 M., 19 F.; nervousness, 1 M., 18 F.; bad dreams, 1 M., 9 F. The cases of Bright's disease were perhaps not genuine yet good physicians pronounced them so. Albumen often occurs in the urine in large quantities and may be mistaken for other difficulties though there may be no deep-seated disease.

The case of consumption is a remarkable one, of a girl in a wealthy family, pronounced by the best specialists in New York City to be beyond the hope of recovery. She went to a faith-cure doctor and fully recovered. The case is perfectly authentic and the parties are well known. The excitement and partial convulsion at the time of treatment, and her own faith, might have set free processes hitherto checked from development and the recovery came as a matter of rapid growth.

These cases show probably that experts may be mistaken in adolescent symptoms of disease and that the life forces will often push up and surmount the most alarming obstacles. It will be noticed how the appetite changes. *or mention it.* There is a physiological reason for it in the new growth and new demands from the system. It shows that the adolescent needs a large variety of food. It is painful to notice how many suffer terrible headaches from defective eyes and only find it out in the last years of school. It is a great cause of suffering and often prevents all school work.

A few cases will suffice to show the character of the returns on health.

F., 26. General health always poor. I never had but one full year of school (because of health). I found out this winter that my eyes made my headaches and glasses have cured them. The doctor says I should have worn them since I had the measles at 12.

<sup>1</sup> See Clouston, "Mental Diseases," and "Neuroses of Development." Also Langdon Down, "Mental Affections of Childhood and Youth."



F., 23. I had headaches caused by my eyes. Was very nervous. Nervousness increased the last year at school and I began to have hysterical attacks, laughing and crying without cause. These lasted over a year. Glasses corrected this very much.

F., 20. Health is not so good. Eyes, nerves, head and back. Got my growth at 13. Growth in height was accompanied by poor health. Puberty at about 14.

F., 30. I was thought delicate in early childhood, but at 14 I was robust, and at 20 hardly knew what pain or sickness meant.

F., 17. I was sick very much before 12. Had bronchitis and pleurisy for a whole year. Nervous at 13. Since then health good.

F., 20. Had gout at 15. Double curvature of the spine at 16. I was treated for it and cured. The right leg suddenly became much shorter than the other. I wore a high shoe for two and a half years. My back is straight but weak. My leg is all right but eyes trouble me. Until 19 I always had horrible dreams. I was going somewhere naked, or I dreamed of worms or dead persons. Now I dream of people I love.

F., 19. From 2 to 10 puny and lived wholly on milk. 10 to 16 appetite and health good. Since then I have had spells of nervousness and indigestion.

F., 19. Very small and nervous as a child. Health better since the beginning of this period. Outgrown sick headaches, etc.

M., 16. From 12 to 15 I suffered from headache and deranged stomach. Health not good. It is better now and I am growing fastest of my life. Puberty at 15.

F., 24. At the age of twelve had very poor health. From that time on I improved and since 15 have had perfect health.

F., 18. As a child always sick. At 12 I became a new person.

F., 18. Health much improved. Had weak eyes, now cured.

F., 19. Health better since puberty. I dream more but appetite much better. Grew tall fastest 11 to 13. Health very poor then. Had chorea at that time. Puberty at 13.

M., 18. Health good. My dreams as a child were horrible, such as falling from the sky down some deep chasm or chased by some animal. My appetite has undergone a great change. I like what I formerly disliked generally.

F., 17. Grew most rapidly from 12 to 14 in height and weight. This was a time of better health. My eyes grew stronger, I slept better, ate more, took more exercise out of doors and went to school regularly, while before I was at home a third of the time.

F., 19. When a child I was fond of all sweet things. Have changed and now I am fond of pure lemon juice.

F., 17. Health has been good for the past four years. Appetite changeable and I dream horribly.

F., 24. From 15 to 20 I had a strong repulsion to meat in any form.

M., 20. Health good but appetite changed. Things I used to like I cannot eat now.

F., 22. Since 12 I cannot eat turnip, cabbage, parsnips or bear the sight of apples or pears, of which I was very fond as a child at 6 or 8.

The question concerning changes in strength, activity and functions was not answered so definitely as some of the questions, but brought out two things clearly. One, everybody perhaps knows, that the muscles grow large first and strength comes later. The boy of 16 or 17, though equal in weight and all measurements of muscles to his brother of 20 or 21, is no match for him in a hard contest. Work and activity may be

demanded of a full-grown boy of 15 to 17 that should not be expected of him, and in fact which he cannot do without injury, since he lacks the strength he seems to have, or might be thought to have, from his size. The other point was the intense interest that girls take in gymnastics, judging from their own free statements. Anthropometrical statistics are now gathered so carefully in colleges for both sexes that further study of this point can easily be made from these records.

F., 17. I want exercise. If I have it I feel as though I had made myself so much stronger and can work with a much better spirit.

M., 21. Increased in total strength by anthropometrical measurements from 417 Freshman year to 736 Senior year. Especial increase in arms, legs and lungs. That is, strength almost doubled from 17 to 21.

F., 19. I enjoy athletic games and out-of-door sports much more, and my love for work has increased, especially active work.

M., 26. From 13 to 16 I was most enthusiastic in athletic sports. Made sleds, coasted on a scooter, made snow-shoes, made other implements that took days of time, hunted, swam, gathered birds' eggs, played base ball, football, wrestled on stilts, captured and tamed flying, red, and ground squirrels. Played chess all the time for a while. All this with an enthusiasm unknown before or since.

F., 17. I have gained great strength in my shoulders and forearm in the last five years. I am fond of all kinds of sports, such as swimming, rowing, dancing.

F., 17. I am much stronger in all parts of my body. I play tennis and basket ball a great deal.

*Changes of Form and Feature.* Did chin, nose, cheek-bone, brow, chest, hair, and other features change, and how? Was there a different facial expression? New resemblances? To whom?

There were 254 returns. 194—45 M., 151 F., gave changes of features. 10 said no change. Change of features is so common as the boy takes on the features of the man or the girl those of the woman that little is thought of it. There is a deep significance, however, underlying this change. The question of heredity is involved. In many cases there is a reversal of the type, the child showing at first the features and activities of one side of the house and later those of the other.<sup>1</sup>

In all the many details of child-study there seems to be no notice of the fact that the growing child passes ancestral stages of inherited physical features. A boy of 7 illustrates the point. As a babe he looked like his mother. At 2 to 3 he was the childish image of her mother, while in the way he stood and in a peculiarity of falling he showed their traits. Since 5 or 6 he has grown to look very much as his father did at that age, and a photograph of the father taken when he was 7 is a good like-

<sup>1</sup> On change of features see West, "The Growth of the Heredity of the Face," *Science*, Vol. XVIII, p. 10-11. Also "Growth of the body, Head and Face," (West) *Science*, Vol. XXI, p. 1-4. See also "Origin of the Fittest," pp. 281-293.



ness of the boy at 7. He now walks and acts like his father. He will undoubtedly look like the father and the father's family. The explanation is this. Coming from the ancestral stocks on both sides are prepotencies which tend to reproduce their own types. The child of two strongly contrasted nationalities or families may not look like either or may follow one type or the other very closely.

The maternal type has certain prepotencies which struggle to maintain themselves. If they conquer before birth or from the start the child will resemble the mother. The same is true of the father. Now if they are closely matched in power there may be a destruction of both types beyond recognition or one may lead till the force of its prepotencies is exhausted, when the other, having gained strength because kept in the background, comes forward, perhaps to lead and decide the final type of features.

This final struggle and opportunity to establish the type comes at adolescence. A discussion of the meaning of this change of features will be given in the conclusion.

151 report a change of features to new resemblances. 20 M., 33 F., come to look like father, and 15 more girls develop features like a paternal uncle, aunt or grandfather. 83—8 M., 58 F., came to look like the mother, plus 14 F., who look like maternal aunt, grandmother, cousin or uncle.

M., 18. My chin has become more angular, cheek bones more prominent, brow not so smooth, chest increased, hair darker, nose sharp and prominent. As a boy I looked like my father but now more and more like my mother.

F., 19. Chin and cheek bones more prominent. Forehead fuller, hair darker, expression firm instead of babyish. I used to look like papa but now I look like mamma.

F., 18. My chin was sharp till 16 when it grew rounder. Nose same, cheek bones not so high, hair darker. I used to look like papa now like mamma. A stranger knew me lately for I looked so much like my mother to her.

F., 20. My face has changed from a round to an oval. Nose does not turn up so much, hair not so low on the forehead. As a child I looked like my father but now like my mother.

F., 22. My features have changed very much. I used to have a long, narrow face and every one said I resembled my mother. Now my face is round and all say I resemble my father.

F., 20. Formerly I resembled my father. Then I came to resemble my mother, who has an entirely different form of face.

F., 18. Chin longer, nose does not turn up as much, cheek bones more prominent, hair darker, look more like father.

F., 18. Features have changed a good deal. Nose from almost a pug has become a slight Roman. Did look like my father now like my mother.

F., 23. In appearance I have changed remarkably. One side of my face is now very much like my mother's while the other side is strongly like my father's. In form and build I am more like my father's mother and his family.

F., 17. Since 15 have resembled my mother, before that looked like no one in the family.

F., 18. My nose became higher on the bridge. My cheek bones more prominent, brow narrower, hair darker, upper teeth larger and more prominent. Changed from resembling my father to a cousin on my mother's side.

M., 21. I am coming to resemble my father in every way of manner, form and feature.

F., 17. As a child was the image of my father. At 12 I began to look like my mother. The resemblance was the cause of frequent remark.

F., 19. My chin has become more pointed, nose has changed to a Roman nose, my cheek bones are more prominent, brow more convex and whole facial expression has changed. Have come to resemble my father.

F., 18. Chin longer and broader, nose was flat but now thin and pointed, brow broader, chest fuller and higher, hair darker, eyes lighter. I have changed to look like my mother and her brother. When a child all my features except my eyes were like my father's.

Closely allied to change of features is the cropping out of ancestral traits. Many returns show that where the features are reported as changing to resemble those of either parent or family there were traits developed like that side of the house. The question on ancestral traits was a minor one at the close of the long syllabus and not answered by many. Those received are suggestive of a wealth of material that may be collected along that line of research. A few cases will show the character of those returns. Over 50 were received.

F., 18. I have become more dreamy and have a habit of biting my finger nails as my mother, grandmother and two cousins do.

F., 17. Have many traits like father and grandfather.

F., 17. Given to day-dreams and have traits like my father. (She is one who spoke of features changing to look like her father.)

F., 18. Came to look like her father. Developed many traits like her father's family.

F., 18. From a little child she unconsciously added "e" to certain words, and was always obliged to overlook her writing to erase the unnecessary letter. This was exactly her maternal grandmother's experience in her childhood, a trick which neither of them overcame till adult life.

F., 19. Ancestral traits have appeared. In my manner when angry, in keeping family relics and tracing family pedigree I am like father. I am also a vegetarian as he is.

F., 18. I am stubborn and willful like my Scotch ancestors.

M., 13, 17, and 24. (Reported by the mother.) There is a very decided outcrop of ancestral ways in each of these boys—physical peculiarities from their father's side as regards a tendency to nervous dyspepsia, vision, posture, gait, etc. The youngest son is a second edition to his father. The boys have the same difficulty over spelling the same words that their father puzzled over, and even to this day mis-spells in hurried writing. Our oldest boy when small would, on going about, be impelled to count his every steps and return to the spot from which he had started even when in haste to reach his destination. This little trick was forgotten by 13. It belonged to the paternal grandmother and maternal uncle.



One question of the syllabus asked for changes of voice and coincident details. 111 persons gave definite answers. 103—43 M., 60 F., said the voice changed and gave details. 8—2 M., 6 F., said there was no change. Careless observers have not noticed the change of voice in girls, but it is quite as real as in boys. A girl's voice grows richer in tone but loses that quality in later life. The age at which the change of voice is reported by girls ranges from 12 to 17 as follows: 1, 13, 18, 11, 4, 2. That is, the most frequent years are 13, 14 and 15. The curve culminates a half year later than the curve for the time of puberty.

The age at which the voice changed in boys is reported from 12 to 18, with these numbers for each year, respectively, 6, 7, 8, 13, 10, 2, 1.

The largest number occurs thus at 14, 15 and 16. This is very near to the time given for puberty in the returns of boys. Since both are due to physical growth and are definite signs of physical maturity, they might be expected to fall near together. There was almost no one who reported any definite treatment of the voice during the period of change.

F., 18. Voice changed at 15. At first I could sing lower, then higher and finally only medium in height.

F., 16. Voice changed at 13. Became deeper and softer. No training.

F., 17. Voice changed at 13. Much lower in tone. Unable to sing and stopped.

M., 17. Voice began to change at 15. At a certain key it would break into a deeper pitch. No treatment. Fully settled at 16.

F., 18. Voice became stronger and deeper at 13, sweeter at 16.

M., 21. I sang tenor at 14. At 15 my voice was broken and I could not sing at all. It slowly developed into a deep bass.

F., 18. Voice changed at 12. It became squeaky and variable, then deep and I sang bass with the boys and about ruined it.

F., 17. Voice changed at 15. Was squeaky and odd.

F., 20. At 12 my voice would crack if I attempted to sing high. I gave up singing entirely. My voice is now lower in compass.

F., 20. My voice began to change at 14. I was treated by an Italian music teacher who gave me exercises in breathing.

F., 18. Voice changed at 13. Began in the upper register and went downward. Vocal training was kept up but the voice was not strained. The change lasted two years.

Another question asked for the age of the first signs of puberty with coincident physical and mental changes. This cannot so easily be determined in males but the answers were given with a wholesome frankness which shows that the taboo is off with people of good sense. False modesty about vital matters is fast going out of fashion as these replies indicate. 133—35 M., 78 F., answered the question. The girls gave the time of the first menses and the boys gave various indications that seemed to be conclusive.

The ages for males range from 12 to 18, as follows: 3, 8, 22,

13, 8, 0, 1. The average is 14.3 years. The largest number at 14. The girls range from 10 to 19. The number at each year was as follows: 2, 4, 8, 23, 22, 13, 4, 1, 0, 1. 13 and 14 have by far the largest number. The average is 13.6. These make a small contribution to the number of American cases previously reported.<sup>1</sup> Roberts<sup>2</sup> finds 14.9 years as the average age of puberty of 575 American girls.

Dr. Kennedy<sup>3</sup> gives 13.7 years in the case of 125 American girls. Since the time of puberty varies with races who congregate in certain localities and is earlier in cities, the time varies for different places but the average is not far from 14.

The time of puberty for boys is usually given as about two years later than that of girls. The evidence so far received from comparative biology and from anthropology does not seem to me to justify this inference. These returns show about half a year's difference.<sup>4</sup>

In larger animals the male gains the reproductive function before the female, usually. With men the power of reproduction may exist some years before it is known. The signs of puberty given by males in these returns indicate full maturity at 14.3 years. Details cannot be given here but indicate that the reproductive function is present before discovered. Elbert thinks that nubility follows soon after puberty.

F., 22. Puberty at 19. I had reached my full height but was slender and unshaped. My skin was much broken out. After this I grew stouter, skin cleared up and bust developed.

F., 17. Puberty at 13. Modest, and blushed at everything. More nervous and timid.

F., 17. I experienced the first signs of puberty at 11. I was ashamed to go on the street for I thought every one would know about it. I asked my mother if people could not tell by my movements. I refused to go anywhere in this condition. I was much frightened the first time and did not tell my mother. It was several days before she found it out. I was ashamed to tell her. (Several cases like this.)

F., 24. Puberty at 12. At first a feeling of rebellion and then of responsibility. I felt older at first,—it wore off.

M., 26. Emissions began at 12.

F., 17. Puberty at 14. My form rounded out, complexion cleared, general health improved. I had a queer feeling of misery and was somewhat nervous.

M., 27. Puberty came at 14. The whole time to 20 was a nervous and unstable period.

M. My first signs of puberty were dreams and phantasms in sleep two or three years before any marked external changes.

M. Was surprised at 14 by copious emissions.

F., 18. Puberty at 14.5. I changed in form, features, strength, appetite and health. Became more confident in my place at school.

<sup>1</sup> "Physical Maturity of Women."

<sup>2</sup> Helen P. Kennedy, M. D., PEDAGOGICAL SEMINARY, June, 1896.

<sup>3</sup> See Elbert, "La Puberté," pp. 71-72, for good discussion of the time of puberty and nubility.



Nervousness and blushing accompanied the change. I think I am less bashful.

M. Puberty at 14. Growth of pubic hair and organs. Later hair under the arms, and beard. More modest and nervous.

## II. MENTAL CHANGES.

*Senses and Thought.* Are the senses keener, wider ranged? More engrossing? Is there a change from sense to thought; from the present to the future; the near to the far? What new *ideals*, abstract or personal?

225 returns to this section were received. 197—59 M., 138 F., say the senses are keener and wider ranged. 28—9 M., 19 F., think the senses are not keener, or are not certain about it. The first thought was that the apperception becoming wider ranged made the senses seem keener, as in the case of one girl who heard the church bell three miles away for the first time at 13 and since then almost every Sunday.

There is reason to think that the sense of touch is keener, since sex and touch are closely related. All of the other senses are modifications of the sense of touch. Czermak<sup>1</sup> following Weber concludes that children have a more acute space-sense than grown people since the sensory circles are smaller in children. Wundt<sup>2</sup> assumes it as proved that the sensory circles are smaller in children, but remarks that the number of nerve fibers does not change much, so that as the surface of the body increases in size the sensory circles must be larger to include the same number. Czermak's conclusion that children have a keener sense of touch is therefore not proved.

There may be an emotional accompaniment in adolescence which produces a keener effect from the same stimulus and thus amounts to a keener sense.

A few give experimental data on which they base the conclusion that the senses are keener. There are no data which cover a long period of years with the same individuals.

It is a matter of common observation that women depend much on the feeling of the hand of the persons to whom they are introduced to tell whether they like them or not. This use of touch is a racial development that has played an important rôle in history. We may trace some of our likes or dislikes to this cause.

Whatever appeals to the senses at this period passes over into meditation as never before. The life up to this point has been spent in the realm of the senses. It now awakens to a world of thought. The change may be very sudden and definitely marked. Thought in childhood deals more with isolated objects.

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<sup>1</sup> Schriften I, 1. p. 305.

<sup>2</sup> Physiologische Psychologie II, p. 15 d.

In adolescence there is grouping of ideas and combinations never experienced before. Many of those sending returns say that life has a new meaning since they discovered the new relations of things.

F., 21. Everything in nature took on a new aspect of beauty at this time and appealed deeply to the senses of sight, sound and smell.

M., 19. Senses are much keener. Eyesight was keenest at 13 as tested by seeing a steeple in the distance. When I am alone my thoughts always go on to the future.

M., 19. Senses are keener, for I can see quicker and farther, smell very acutely and my skin is much more sensitive.

M., 18. My senses are keener, at least I can detect by smell any of the flowers I cultivate. My taste is also keener. Other senses I am not sure of.

F., 20. Senses are keener. I know that touch, temperature and pressure are keener. This by experiment. Can detect difference in pitch that I could not at one time. Smell and taste are "archaic" and not so keen. Sight keener. I see things that I did not notice before.

F., 17. Senses are keener. I see around me many things that I never did before. I take in and appreciate much more. These sensations cause much more thought.

F., 20. Senses are keener and more engrossing. A change from sense to thought. A simple thing will start off a train of thought.

M., 22. Thoughts changed from the near to the far, and to ideals and hero-worship.

F., 17. Senses are keener. Now I always hear the chimes three miles away that I never heard as a child. Touch is keener. I notice if a person's hand is smooth or rough when shaking hands.

172 answered the question regarding ideals. 105-77 M., 33 F., have had ideals, against 7 who say they never had ideals. These are probably mistakes as to the meaning or have forgotten, for "without an ideal man is no longer man." Early adolescence is the special time for the beginning of ideals. They change frequently. One's stage of development can be marked quite accurately by his ideal. The manner and ways of speaking, walking and dressing indicate closely the ideal that the boy or girl is following. Arrest in male stages is unfortunate and frequent, judging from common observation.

F., 20. My ideal now is a strong character, self-reliant, courageous and sincere, who lives the true Christian life.

F., 40. At 12 I wanted to sing like Jennie Lind.

F., 33. A philanthropic ideal was developed at this time. It was suggested by a book on work among the poor. It became a waking dream in which I indulged every night before sleeping, having my eyes to remain open, although they closed from sleepiness. This ideal, then implanted, has never been eradicated.

F., 17. See less, hear more, live more in the future. Had imaginary ideals. First one was tall, slender, light curly hair, blue eyes, pink-and-white complexion, small hands and feet, dainty clothing with much pale blue about it, pretty dancer and graceful manner. Did not care what she had in her head. Now my ideal is an intellectual woman, unmarried, sympathetic, showing her brilliancy on occasion. The



steadfast, true, loving friend. A Christian, a musician, a writer, a housekeeper, a reader, an artist, a singer, a teacher. I care not how she dresses. She should have expressive eyes, dark hair and good features. One who is purified by trial and loses sight of self in others.

F., 19. I have two ideals, one real and one abstract.

M., 19. At 14 my ideal was to tend a soda fountain. At 16, for a year my ideal was to be a lecturer. I liked the idea of travelling and the importance of it.

M., 20. I have had many different ideals, first statesmanship, then the ministry, and now teaching.

F. Had an ideal. Did not try to be like my ideal but to seem like it to others.

F., 17. My ideal is a beautiful Christian character.

M., 18. A few years ago I wanted to be a pugilist and all-around-sport. Now I want to be a lawyer and orator.

M. I made heroes (ideals) of my older male friends.

F., 19. My ideals have been Washington, Savanarola, Socrates and the stoics.

M., 26. Had ideals at this age. Cæsar 8 to 11, then Webster, after conversion at 12, Beecher was my model. I intended to be a greater man than either. At 15 my ideal was an imaginary citizen of the universe.

Ideals awaken longings to be like the ideal. One of the characteristic features of adolescence is the deep longing. In slightly morbid cases like Marie Bashkirtseff, we get the full significance of it. She wanted to be "Cæsar, Augustus, Marcus Aurelius, Nero, Caracalla, Satan, the Pope, or all of them at once."

Here are some healthy cases.

F., 23. At 12 I began to quiet down. I shrank into myself, began to have day-dreams, was often lost in thought, that, although innocent in itself, I was ashamed to tell.

M., 25. Air-castles of all sorts, kinds and descriptions were dwelt upon.

F., 32. Longed for wealth and fame.

F., 18. I had a great longing to do right and to be well thought of.

F., 17. I dreamed of happiness caused by money, which I used to gain the title of philanthropist.

M., 21. I longed for and dreamed of unheard-of things.

F., 19. I have had deep reveries and longing. I often think how happy I should be if I could excel in some one thing I like. I have dreamed of being able and longed to sing like Patti, to play like the old masters, to write like Shakspeare. I have dreamed of going through college and becoming very learned—of becoming a missionary—of being rich and doing much to relieve the poor—to be good. I have longed to possess all virtue, absolute truthfulness and unselfishness.

F., 18. From 14 to 16 it was one of my greatest delights to sit down by the fire in the winter and build air-castles. I imagined myself in all sorts of high positions. It was hard to overcome this habit, but now I have no such tendencies.

F., 18. My longings many times have been intensified, and I have had a much greater tendency to reverie and dreaminess.

## We are reminded of Longfellow's "Lost Youth:"

"The gleams and glooms that dart  
Across the school-boy's brain;  
The song and the silence in the heart  
That in part are prophecies and in part  
Are longings wild and vain."

These ideals, which are attained to in spirit almost at a bound, together with the new rush of ideas and the new soundings in the deep sea of emotion, render it impossible sometimes for the adolescent to talk easily. He feels important. In imagination he addresses large audiences or delights the circle in conversation. He feels even more keenly what the mature person feels, but when he comes to talk his motor apparatus has not acquired facility. Acquiring speech is a long process. A new life calls for new speech. It must be acquired often with painfully awkward effort.

The speech center and connected processes are easily thrown out of function by a nervous disturbance. The second dentition sometimes deprives the child of the power of speech<sup>1</sup> and they must learn it again, or it may cause stammering. Anger sometimes renders speech impossible. Deep emotion has a similar effect and enters as a prominent factor into this adolescent difficulty. It may be that in this dumb, bound feeling, we have another phase of nervous inhibition, since many nervous diseases are clearly associated with this period.<sup>2</sup>

*Language.* Was it harder or easier to express one's self, and was there a dumb, bound feeling? Was truth-telling harder or easier?

There were 346 answers. 262—72 M., 190 F., have experienced this difficulty. 82—27 M., 57 F., never suffered for want of words.

As to truth-telling, some found truth a necessity. The slightest deviation was painful. Some found it very hard at this period to tell the truth.

M. Not easy to tell the truth. Great imagination and desire to make a good story.

M., 31. From a confident singer and speaker as a child, I became very diffident and have hardly yet gained much power of expression.

M., 18. Found it much harder to express my thought, especially if it is something I feel deeply. Truth-telling harder.

F., 12. It is a little embarrassed at 11 I found it almost impossible to talk.

F., 32. I have suffered much from that dumb feeling. I have a nervous dread of losing the words I want to say.

F., 17. Harder to express myself, especially if I feel deeply, then I cannot express it at all.

F., 28. Seems harder for me to express myself in words than ever.

<sup>1</sup> Langdon Down, op. cit.

<sup>2</sup> Cf. Clouston, op. cit.

for I hear others talk well and in trying to choose my language I find that the right words will not come at the right time. I do not want to use my baby language and so find it hard to say what I want to. If I used my old language I could say it easily.

M., 26. It was harder to express myself. Could this be from my using my receptive, rather than reproductive powers during adolescence?

F., 20. I have found it harder to express myself. That is, I have far more thoughts but cannot readily put them into words. The thought seems ready to burst forth, but the words will not come.

F., 19. Since 12 I have had a difficulty in getting the right word and so stumble in speech. It is a motor difficulty.

M., About 12 I had feelings too deep for me to express.

F., 17. The dumb-bound feeling expresses my condition exactly. This is true especially when I feel that a thing is so.

F., 17. At 11, when asked to describe Valley Forge, I had seen so much and had so few words, I could make but few statements about what I had seen.

M. I never can express myself easily, and at this time I did not want to express my thoughts to any one unless it was to a dog or horse.

M., 17. Very difficult to think and speak at the same time. Came to feel dumb-bound. Truth-telling always easy.

M., 21. Hard to express myself when with those who are not in sympathy with me.

M., 19. I find it hard to use good grammar when with my superiors.

F., 40. Felt dumb over the enjoyment of out-door life.

F., 28. From 12 to 18 I was fluent and never failed for a word. Criticism at 18 for use of language made me conscious and stumbling.

F., 32. Always a gift of gab—no dumb-bound feeling for me.

F., 21. Always easy to express myself. 10 to 12 a bad habit of lying. Very hard to break it. Tempted at times now.

M., 22. Expression became easier. Truth-telling was a kind of increasing necessity with an aversion to exaggeration.

*Future.* Were careers, plans, vocations, trades, etc., dwelt upon?

There were 462 returns. 369—167 M., 202 F., have planned the future, while 93—81 M., and 12 F., have not.

Closely connected with the widening of apperception, with the rush of new ideas, longings, and change of thought from near to far and change of ideals, is the tendency to plan the future. It is so common as to demand only numerical mention here and a few illustrations.

F., 18. As a child I dreamed much of the future. Wanted to be a musician, elocutionist, artist, milliner, book-keeper, dress-maker and a school teacher. Have often desired to be as beautiful in character as Christ himself.

F., 24. One of the greatest pleasures of my life has been to make plans and map out an ideal career.

F., 20. Planned to teach in early childhood. At 13 I began to declare it, and after much discussion my wish was granted, and I began to prepare for it, to my great delight.

M., 50. Nothing is more intense and vivid than my plans for the future. One scene. A high hill with bald summit. Had been blamed for something and went to that peak. Alone there I had a very deep and never-to-be-forgotten experience. I paced back and forth and said:



"Now I will, I WILL, make people like me, and I WILL do something in the world." I called everything to witness my vow.

F., 23. My plans for the future were all for literary fame. School aroused my ambition and for three successive years I took essay prizes.

M., 18. I look to the future. Think of myself as teaching, reading law, at the bar, in the legislature, as active speaker always taking the side of right and denouncing wrong. I have had many ideals, one to be a minister.

F., 19. I often think of the future and wonder what it has in store for me. I sometimes wish that ten years would pass in a night.

M., 19. Planned his future and painted it with the tints of the sea-shell.

F., 19. In mind I have planned the first day of school and gone through it many, many times. At one time I wanted to be a trained nurse. I pictured myself among the patients and how I would act in an operation. Then how I would study abroad and get a fine position.

*Home.* Did the attractiveness of home diminish, and was there a tendency to be out, go far away, strike out for self, seek new associations and friends? Should home be left part of the time?

*Parents and Family.* Did parental influence decline? How differently were father and mother, brother, sister, and other relatives regarded? Parental authority, punishments?

*School.* Was there a disposition to leave school, change studies, or teachers, defy authority, or to *feel* more deeply studies, punishments and discipline?

401 answered the question regarding home. 253—123 M., 111 F., had a desire to leave home and strike out for themselves or found home less attractive. 150—29 M., 121 F., had no desire to leave home.

127 thought that home should be left a part of the time, 20 thought it should not.

As to parents and family, 281 replied. 99—33 M., 66 F., said parental influence did decline, while 184—35 M., 126 F., found their parents just as dear and obeyed them as readily as in childhood.

100—32 M., 68 F., felt a disposition to leave school or did leave for awhile during this period. 192—28 M., 34 F., had no such feeling.

It must be borne in mind that these returns were mostly from Normal School, High School, Academy and College students, a majority of whom were away from home when they wrote.

75—34 M., 21 F., rebelled against the authority of home or school, during the adolescent years.

74—45 M., 50 F., saw that punishment was felt much more deeply. 18—9 M., 9 F., experienced no change.

This gives a very true picture of the feeling of young people toward home, school, and authority at this period of life, because the answers were given under conditions allowing free speech and favoring home, parents and school. It is a very forcible illustration of the fact that a boy or girl from 12 to 18 is fully

conscious of personality and the rights of individual recognition.

This feeling that home is shut in and the desire to get away and travel, to see for one's self and form new associations, is an instinct as old as the race and common to all animal life. It is like the migratory instinct of birds. It may spring up suddenly with the most obedient and well bred children. It is not a sign of degeneration or of less love for the home or parents. It is often associated with the most intense love of home and family.

The feeling is strongest at 16 to 18 or about the time of the final approach of maturity.

The sudden feeling of rebellion against authority, which often surprises the child as much as the parent, is another instinctive habit of the race. These crop out in the best children, sometimes with a violence that shocks everybody.

It is not necessarily a bad sign, unless frequently repeated. The desire to leave school, together with the desire to leave home, is a true and natural impulse to adjust himself to the life which he is already living in his imagination in company with his ideals.

Sympathy, not punishment, is the proper corrective.

F., 20. Home not so attractive. Wanted to be away to care for myself. Always rebelled against punishment. Never wanted to leave school.

F., 19. I think that home should be left, for it makes one appreciate it. Home influence has not declined for me, but influence of parents has declined.

F., 18. I love my home, but have times when I want to go away and try for myself. Love my parents more. Often tired of school.

F., 20. Had a strong desire to leave home, but now would like to go back. Love parents more. Have once or twice felt defiant toward the authorities at school.

F., 17. Home not changed. Want to leave for a short time. Influence of parents declined. Have short times that I want to leave school.

M., 19. Rebelled against home and his father's authority. He was eager for school, but was forced to leave because he never knew his lessons, though easily superior in ability. His conduct was willful and positively unendurable at times.

F., 17. I grew very restless at home. When away from home I feel as if I could be perfectly happy at home.

F., 16. I did not love my father or mother till about 13. I thought them nice. I feel more deeply all reproof and have had times when I wanted to leave school.

F., 18. Home more attractive. Parents' influence stronger but they do not command at all.

M., 27. Attractiveness of home diminished. Had times that I wanted to leave school. Often wanted to defy authority. Crave sympathy.

F., 19. I used to be extravagantly fond of travel, now I don't care.

F., 17. Home is very dear, but I left it last year to strike out for myself.

F., 24. I defied the teacher's authority at 13 and left the room.

F., 18. Have defied authority at school and felt a great pleasure in so doing. Often wanted to leave school. I craved sympathy.

F., 21. Want to be at home, but have new friends. I like to be under authority. I crave sympathy.

F., 19. At 14 I wanted to leave school and did so. Was out for six months and then went back with a new zeal.

F., 20. At 14 had a great desire to break all rules of school simply because they were rules.

F., 17. At 13 to 14 I wanted to go somewhere all the time. Home lost its attraction. I resented punishment and felt that I was not a child any more. At 14 I was tired of my teachers, studies, discipline, in fact tired of everything connected with my school life. (Now in Normal School.)

F., 19. I have at times felt like defying the authority of the teacher from 12 to 16. Yesterday morning in chapel I had an impulse to rise and tell the speaker to be still. The thought of the disgrace that would follow frightened me so that I hardly dared breathe. I do not know why I felt so, for I respect the person highly.

Closely associated with this desire to rebel against home and school is the spirit of leadership. 171 very brief replies were given, mostly monosyllabic. It is a noticeable fact that a large majority of those who express no desire for leadership are girls. Many of them said they much preferred to be led.

81 M., 53 F., developed a spirit of leadership at puberty. 3 M. and 31 F. preferred to follow. The subject may be seen much more distinctly in the chapter on biography.

The success and buzz of organizations in the hands of the young people themselves illustrate this spirit of leadership in active operation.

F., 25. Leadership and independence unusually strong, but not a favorite with my fellows.

M., 18. Was very timid as a child. Now I like prominent parts in games or work. I never used to want to lead. Now I do not want to follow.

F., 19. I used to like to lead, but now I rather be led.

M., 27. I had at 14 a distinct spirit of leadership, again at 20.

M., 21. Independent and fond of leadership.

M., 21. Since 12 I have felt independent and would rather lead than follow.

F., 24. Strong desire for leadership, while previous to adolescence I was very dependent and willing to be led.

F., 17. Before 12 always a leader. The girls asked me if they might play. Now I just as soon some one else would lead.

F., 21. Became more independent, but had streaks when I would like to lean on some one else.

*Friends.* Were there associations with older or younger confidantes, sympathies, cronies? Were friendships changed, deeper?

369 answered the questions. Of these 69 M., 153 F., total 227 sought the companionship of friends older than themselves. 11—10 M., 41 F., sought younger friends, leaving 91 who choose companions of their own age. 73 per cent. of adoles-



cents seek the companionship of those considerably younger or older than themselves.

The reason for this is sometimes given in the answers themselves, but often left to be inferred. One reason is a desire for sympathy and escape from the merciless teasing which they are so apt to get from those of their own age. This love of sympathy may account for many cases where boys in their teens have married women 10 to 15 years older than themselves. Another great reason for seeking companions older than themselves is the great desire to find out things about themselves and the relation of the sexes and facts about reproduction and other matters which are usually kept so carefully guarded from young people. Older people often speak more freely of these subjects and often drop a word which is eagerly caught up by the adolescent. It is a silent way of begging for information often unjustly withheld.

100 answered the question whether friendships were deeper or not, 96 saying yes and 4 no.

M., 20. Associations with older people. Do not crave sympathy, do not want any one to sympathize with me.

M., 19. I seek older associates because I can learn more from them.

M., 22. Best friends older. Don't like girls as well as married women, for the latter are more sympathetic.

F., 16. I crave sympathy and have older friends.

M., 21. I have great attraction toward older people, especially ladies over 30.

F., 17. All my friends are older, my best friend 4 years older. I crave sympathy and feel that the teachers might realize that we are far away from home.

F., 33. Companions older. I was more interested in my father's conversation with other men, and my mother and sister were much more entertaining to me when they were talking to their friends.

F., 18. I would rather associate with young people, unless the older people were talking about things I had no business to hear, then I preferred their company.

M., 16. Like older friends best. Love a girl of 23.

M., 36. At 13 my friends were women much older than myself. After 13 I cared more for men 10 or 15 years older than myself.

F., 19. I have always associated with older people. At 14 I thought more of the young ladies than the girls my own age. Many of my friends are ten years older than myself. I am rarely confidential, but every one confides in me. I never ask for these secrets. I am very sympathetic, often highly sensitive to the joys and sorrows of any one I like. I sometimes feel my friends' troubles more than my own. At other times my lack of sympathy is almost brutal. I am no actress and cannot feign what I do not feel. When it comes to real friendship I prefer men to women. They are more honest, broad-minded, generous, open, original in their opinions, ready to help when needed, appreciative, far more worthy to be trusted. I am an American. I am the oldest child, have studied psychology and know the meaning of these questions; am white, a Christian and a Protestant.

*Love.* How did feelings about the other sex change? Was a real

person first loved? Was the person older, idealized, how long did the affection last, how shown? Describe later loves.

This section was not very fully answered. 91 have frankly answered the questions. Of these 69—28 M., 41 F., have been in love before the age of 25. 22—11 of each sex, have had no love experiences. These answers were from young people from 16 to 25. 9—2 M., 7 F., have loved purely imaginary characters, and 49—3 M., 46 F., speak of passionate love for the same sex.

Any complete study of adolescence must needs deal with this subject, yet here it can have but a brief treatment. It is not an essential characteristic of adolescent psychology, but it is the time in life when it is natural for the sexes to be attracted to each other and to begin those attachments which ripen into love and marriage which forms the foundation for all that is pure and noble in our home and social life.

With well-balanced boys and girls the matter of love will come in its own good time and place. The mating instinct is strong, however, and will assert itself. The only danger is precocity. After the judgment and character are well formed there is little danger from this noble passion.

The love of imaginary persons is somewhat striking, but only shows that some one, oftentimes, must be loved at this period.

The love of the same sex is not generally known, but is very common. Without solicitation 49 cases have been reported. It is not mere friendship. The love is strong, real and passionate.

Many of the answers to the syllabus are so beautiful that if they could be printed in full no comment would be necessary.

F., 21. I had an ideal lover, older than myself, it still continues. Never changed regarding the opposite sex, always had a hatred of men.

M., 19. My first love was an ideal person. Did not last long.

F., 37. My first love was an ideal character and much older than myself.

F., 23. I fell deeply in love with a teacher at 17. I adored her and could not tell her that I liked her. I choked if I tried to. I lost that love quickly and for a very slight cause.

M., 21. A real person was desperately loved for the space of three months at nine. A second love came at 15. The affection was shown by personal declaration on both sides. She left town, when I am ashamed to say my devotion gasped once or twice and expired. Since then I have twice been desperately in love.

F., 33. At 14 I had my first case of love, but it was with a girl. It was intense, intense love, had the same quality and sensations as my first love with a man at 18. In neither case was the object idealized. I was perfectly aware of their faults, nevertheless my whole being was lost, immersed in their existence. The first lasted two years, the second seven years. No love has since been so intense, but now these persons, though living, are no more to me than the veriest stranger.

M., 21. Idealized a girl, love lasted only a few weeks. 2nd case, idealized, love lasted two or three weeks. 3rd, a teacher much older, idealized, lasted several years. 4th case, same age, slightly idealized, lasted a year.

F., 19. At 15 I had a time of writing poetry on love, due to falling in love with an older and superior girl.

M., 50. Then the girl-fever. There were two or three who were my ideal at different times. The first was five years older. "I would have eaten dirt for that girl for a year or two. She never mistrusted it. Never dared speak to her."

F., 19. At 12 I was promoted to a teacher with whom I soon became infatuated. I talked of her from morning to night. Remained after school, etc. From then till 17 I adored some teacher or other all the time. At 17 I was much in love with a girl six or seven years older. I consider such love sin.

F., 24. My first love affair was a very innocent and infantile one. At 15 I spent two months on the Great Lakes. The first day I noticed a young man in uniform who somehow interested me. We never got beyond the point of saying good-morning. Toward the end of the time I found myself blushing when he helped me into a boat, and felt my heart beat at the sound of his step overhead when he was watching. The next summer I felt a strong desire to have him love me. The third summer I spent hours every day in thinking up scenes in which he should declare his love to me.

F., 35. Girls between the ages of 14 and 18 at college or girls' schools often fall in love with the same sex. This is not friendship. The loved one is older, more advanced, more charming or beautiful.

When I was a freshman in college I knew at least thirty girls who were in love with a senior. Some sought her because it was the fashion, but I know that my own homage and that of many others was sincere and passionate. I loved her because she was brilliant and utterly indifferent to the love shown her. She was not pretty, though at the time we thought her beautiful. One of her adorers, on being slighted was ill for two weeks. On her return she was speaking to me when the object of our admiration came into the room. The shock was too great and she fainted.

When I reached the senior year I was the recipient of languishing glances, original verses, roses and passionate letters written at midnight and three in the morning.

*Selfishness and Altruism.* (1) Was there increase of self-indulgence, egoism, self-assertion? (2) More unselfishness, devotion to other persons or causes, with sacrifice of self?

285 answers were received. Of these 214—74 M., 140 F., replied that they were more unselfish and showed devotion to others. 71—26 M., 45 F., said there was a large increase of selfishness. The answers are somewhat unsatisfactory from a scientific standpoint because the young people hesitated to say that they were less selfish. I suspect that many of those who said they were more selfish would not be judged so by others. But some are intensely selfish as the records show. It is only a passing mood and should be outgrown. One case is reported of a boy who was so selfish that the parents and family were deeply concerned about him. The next year he was generous and noble. It is the great period in life for devotion to others



especially in self-sacrificing causes. Pledges, agreements, vows, and other restrictions on one's freedom, are made at this period with a joyous enthusiasm.

F., 18. Always unselfish. When mother gave me money to buy clothes I would give it away to some poor child I met on the street.

F., 18. More altruistic. Think selfishness is the meanest thing in the world.

M., 21. At 16 I grew very sympathetic. I feel deeply the trouble of others. My ideal is a pure life ruled by love alone.

F., 22. At 16 I was so altruistic that many times I gave my breakfast to a little girl that came around begging, and did not let my mother know it, and went to school without any.

F., 18. Feel much more selfish than as a child.

F., 17. Selfish by nature but for the last year or two, by thinking a moment, I became generous.

F., 17. I am more self-assertive. I have streaks of being unselfish and the opposite.

F., 24. During this period I have sacrificed my own pleasure to that of others many times. I have often stayed at home to let a younger sister go.

F., 18. I have spells of being purely unselfish.

F., 23. At 16 I became very selfish. I decided that it was no use to deny myself for others and have found it very hard to break the habit.

F., 33. About 16 I felt that I was important enough to be noticed anywhere. My moment did not last long. I became more unselfish at this age. I began to help my sister which I had never done before. I performed even disagreeable tasks for her.

M., 20. I associated with those who were not good characters to try to bring them to a higher level.

M., 16. Increase of self-indulgence and self-assertion and also often of sacrifice for others.

F., 18. I am more selfish and hate to give up anything that will give me pleasure.

Were there impulses to reform self, others, religion, state, society, etc.?

Out of 149 answers regarding reform, 142—49 M., 93 F., have experienced these impulses. This feeling was very strongly seen in the biography also and is very characteristic of adolescence. The enthusiastic youth takes no account of the difficulties to be surmounted, but single-handed starts out to reform religion, politics, social customs and the wrongs of the laboring classes. The reforms thus achieved furnish a striking chapter in history.

O, would the soul might ever

Achieve its immortality in youth,

When nothing yet hath damp'd its high endeavor,

After the starry energy of truth!

—LOWELL.

Rivalry, jealousy and courage are often intensely displayed and are characteristics of the period.

F., 19. I have spells that I want to start a great reform.

M., 19. Had a great desire to be a leader and political reformer but it is dying out.

F., 19. I often have impulses to reform myself and others socially.

M., 21. My impulses to reform were very many and very strong.

F., 18. I have impulses to reform myself, society and institutions.

F., 18. I am more independent, and at times feel a spirit of rivalry and courage and want to reform self and society.

M., 25. Was independent, full of reverie, jealous and lacked courage at times. Impulses to reform the world and to invent were present.

F., 20. When sick at 17, I felt that I ought to organize a society to look out for tramps. Have felt that I should reform myself too.

F., 16. Strong feelings of jealousy. Impulse to reform.

F., 17. I have had a spirit of rivalry and a desire to reform society.

F., 18. Am very jealous, desire to reform everybody.

M., 19. (African.) Always a leader in spirit, dreamy, jealous, not very courageous, given much to reform of self and others.

*Energy and Activity.* (1) Were there spells of languor, inertia, laziness of mind or body; sloth in play or study, with great indifference of feeling to work or duty; and (2) spells of unusual activity, zeal, energy, work, interest, etc.?

514—170 M., 344 F., report spells of inertia of mind or body or spells of unusual activity. These show that the spells of energy and activity are affected by the weather, somewhat, but a large majority seem to experience these moods in all kinds of weather. It must have its explanation in the physiological condition at this period. The rapid growth and the unsettled condition of brain and muscle may cause unusual irritation of the motor centers or hyperæmia or anæmia of those centers and thus bring about these fluctuations in activity which in their intense form are distinctly adolescent phenomena. It amounts in many cases almost to cramp of the motor centers, judging by the amount of work some can do without fatigue when these spells are on, and the rapidity of fatigue at other times.

F., 18. At 13 I had spells of languor. Hard to work and it was not well done. Again I can do twice the ordinary labor. Can work all day with no sign of fatigue.

F., 24. At 16 I had such a spell of energy that I took the parlor carpet up, cleaned it, put it down and put all in order alone. Wrote an essay in this mood at 23 and it was criticised as not sounding original.

F., 17. In languid periods I feel as if I should like to lie down and sleep for a week. Again I do distasteful work with a real interest.

F., 16. The summer I was 12 I would stay in bed till noon and then sit about the rest of the day doing nothing. I have spells of activity that last a week, and do unnecessary work.

M., 20. Have had spells of languor. Brain seems totally inactive. Again something pushes me on and I know not how to stop.

F., 18. Spells of inactivity, at other times an overflowing of energy. Then I could accomplish an astonishing amount of work in a short time.

F., 19. At 14 there were times when I had a great loathing of any activity. Again felt like doing heavy work and craved it. I do not notice these spells now.

F., 19. About 17 I had a week that I was so stupid that I did not do any work and would not. That same spring there were three or four days that I could not find enough to do.

F., 17. This year has been characterized by alternate spells of languor and great activity. After working in these languid spells I feel as if I had been through a coffee mill.

F., 17. One time I had a spell of activity and swept and cleaned several rooms. I do not generally do much of such work.

*Elation or Depression.* (1) Were there spells of despondency, gloom, feeling of unworthiness or sin, with perhaps dithering thoughts of death and suicide? If so, state frankly and confidently the causes, cures, etc. (2) Were there periods of joy, elevation, spontaneous happiness? (3) How were feelings usually modified as to range, intensity, change, direction, etc.? Note especially *anger, pride and fear.*

766 answers were received on this section. Of these 285—85 M., 200 F., report spells of elation while 10 report no times of unusual elation. 471—237 M., 234 F., report spells of depression. The same 10 individuals who report no elation report also no depression, and generally those who report the one report the other also.

These moods, probably, have the same cause as cases of activity or inertia but are not contemporaneous with those spells. In no case were they so reported. Depression is usually reported as following soon after the period of elation. In only a few cases was it reported as invariably coming first.

Many report the common experience of feeling despondent on awaking, less so after a bath and toilet, cheerful by school-time and joyful at noon. The returns indicate a close relation between depression or elation and conditions of nutrition. These spells of depression normally cease at the close of the adolescent period. In morbid or pathological cases these fluctuations readily develop into melancholia or mania.

The saddest chapter of this study is associated with these fluctuations of moods. Thoughts of suicide are very common. 13 cases of attempted suicide are reported, 3 were successful in the attempt. Cases may be noted often in the papers. This point will be given farther discussion under the treatment of such cases in the conclusion.

Feelings are reported as being much more intense and wider ranged. Anger and pride are usually intensified, but kept under better control while fear is usually reported as much less intense, except of a moral nature or fear of some secret disease. This latter fear was common and intense. The curve of despondency starts at 11 and rises steadily and rapidly till 15, and culminates at 17, then falls steadily till 23, where it reaches the base line.

The returns are very full. Space can be given to only a few of the briefer cases.

M., 15. I often have spells of despondency. Can understand a person committing suicide. I have times of great joy and am pleased with everything.



M., 22. Subject to great extremes till 18. Have thought less often of suicide than before puberty, but very strongly at times. Chief reason for this was that I felt that people I liked, and especially my family, did not like and did not appreciate me.

M., 18. Have spells of great despondency at the thought of not being able to finish my education. I have been on the verge of committing suicide. I am sure I would have done so but for the thought of eternal punishment.

F., 24. From 12 to 16 I was subject to attacks of melancholy and misanthropy. Had a violent repulsion to any human society. An hour or so spent by myself out of doors would usually restore me.

F., 20. From 14 to 19 I had often spells of despondency. I felt very sinful and lonely. Wanted sympathy. This was just after a joyful mood.

F., 19. I have times of feeling very unworthy, with no cause, or when something has occurred to make me very happy. Again it seems as if I could shout for joy, just from the fact that I am living.

F., 17. Spells of despondency, I know not why. All right if I can cry. Feeling of intense joy.

M., 13. A boy came from school and said: "If I have got to get that geography lesson, I will jump into the pond and drown myself." Mother told him to go upstairs and lie down, thinking he needed rest. She followed him soon and found him hung by a rope that he had had there for some time. He was a good boy, fond of work.

*Morals and Habits.* What new moral motives, temptations, etc., and how were they met? Were there sudden feelings of right and wrong, deeper appreciation of both in self and in others; conscience and moral fears? Was any penance ever self-inflicted? How were dress, manners, etc., modified?

526 answers were received. Of these 240—73 M., 167 F., have experienced sudden moral feelings of right and wrong, against 16 who have not. 226—134 M., 92 F., have had a sudden impulse to correct any untidy appearance in dress, while 44—43 M., 1 F., report no change in dress or manners. The matter of dress seems to be an instinctive desire to irradiate the attention from sex or it may be due largely to the fact that the young person suddenly awakens to a feeling of maturity. Many things in the study indicate that all of the feelings of responsibility, of personality and worth become full-fledged at this time. This may account for the fact that the boy suddenly realizes that his shoes are not blacked, or his coat and hair not brushed, or his collar not of the latest pattern. This change is very noticeable in the grades in school.

There seems to come at this age a great desire to feel smooth. It is no doubt connected with the Roman and Grecian baths and the skin cults of history. Underlying that, is the feeling developed from pre-historic times that any roughness of the skin—as pimples, hair, etc., is a relic of savagery and a conflict with the lower forms of life and the baser elements in one's own nature.

On the moral side there is a new and tremendous access of possibilities. The young person awakens to the fact that

he can commit crimes of which he never dreamed before. There are numerous expressions of intense surprise at the awful thoughts of crime that go rushing through the mind at this time.

The frequency of crime has been noted by Corre.<sup>1</sup>

27—9 M., 17 F., report desperate criminal thoughts which in some cases required all the self-control of the individual to keep him from committing the crime thought of.

Self-inflicted penance for immoral conduct or disobedience or error was often reported. In a few cases it was severe.

F., 17. I have felt more the desire to do right because it is right. Feel indignant toward wrong and wrong-doers.

M., 19. First realized the meaning of "ought" during these years. Became very particular about dress and manners.

M., 32. I remember saying as a child "I will be good or diabolically bad." Extreme it had to be.

F., 20. Have often put upon myself penances for moral actions. I wore things I did not like or went without a favorite dish.

F., 20. Sometimes something suddenly tells me what is right and I feel very uncomfortable if I do not live up to this prompting. I earned money for a bracelet which I wanted very much. But I got angry at my sister, called her names, was sorry, and next day put all the money in the contribution box.

F., 17. I feel more deeply moral conduct. Once as a penance I walked six miles rather than take a trolley. I was dirty and tired on reaching home but felt better for the act.

M., 30. Have had all sorts of bad temptations, and my mother's influence has helped me to overcome them.

F., 20. I feel more that wrong is ineradicable. Can see how hard it is to do right and therefore appreciate it more. I feared at times that I had committed the unpardonable sin.

F., 19. At 13 I had a sudden change of dress. Never cared how I looked before.

F. Act now from a sense of right or wrong. Inflict penance generally by depriving myself of something to eat. At 13 I got into a perfect rage if anything aroused my anger. Now I control it.

M., 35. At 14 illicit desires began to show themselves. Strong temptations were safe-guarded by home training.

F., 20. Anger and pride were both marked at that period.

M., 26. My moral regimen was very severe on self. A Christian had no right to luxuriate in dress, food, houses, etc. Refused to eat sauce, pie and cake.

<sup>1</sup> "Of 7,473 prisoners in France, in 1883, under 21 years of age, there were as follows:

Below 8 years of age										14 boys,	6 girls.
From 8 to 10 years of age										159 boys,	37 girls.
"	10	"	12	"	"	"	"	"	"	423	117
"	12	"	14	"	"	"	"	"	"	1,214	269
"	14	"	16	"	"	"	"	"	"	1,319	409
"	16	"	18	"	"	"	"	"	"	1,765	385
"	18	"	20	"	"	"	"	"	"	214	209
Over 20										3	5

Out of 20,000 criminals arrested in Paris in one year 15,000 were less than 20 years of age." A. Corre, *Crime and Suicide*, p. 309.

M., 26. Got hold of a lot of quackeries about the danger of emissions, which frightened me almost to death. I thought each was wasting my life and possibilities. This was terrible. I dreaded to go to bed at all. It was a tremendous relief when my brother said he was affected the same way. A doctor told me it was all normal. I had first consulted medical companies, who all tried to make me think my condition was deplorable in the extreme. If ever a set of men deserved to go straight to hell, it is these companies. I often contemplated suicide. I had no friend, was solitary as possible. We need plain instruction or a book which will tell young folks the plain truth about these matters.

M., 25. At 15 great desire to do just right and to help others. My greatest temptation was to give up everything, even my life, but the thought of my mother alone kept me from doing it.

F., 35. I had criminal convictions. I said: "I will not try to do right any more." The realization that it was possible to disobey was a distinct pleasure to me.

F., 33. About 13, while visiting, I was suddenly filled with thoughts of my own wickedness. It spoiled all my pleasure.

M., 21. Criminal thoughts and impulses were more than fitting at times and required all the self-control possible to deal with them. Even that could not eliminate the thoughts.

F., 24. Wanted to strike, kill, destroy and burn.

F., 17. I have a beautiful niece. One day, when she was sleeping, I had a sudden thought that I should like to kill her. It shocked me that I could think of such a thing. It was over in a minute.

M., 27. Had, after 14, a desire to hit some one or do some violent act.

F., 18. Thought of killing my father, mother and self all at the same time. Also of committing suicide. Wondered what the newspapers would say about it.

*Religion.* (1) Was there more inclination to pray, read scripture, hymns, attend church, confession, prayer meeting, and were there new feelings toward God, Jesus? (2) New inclinations to do duty, bear witness, influence *others* religiously, go on missions? (3) Were there *doubts*, questionings, need of new grounds of faith, or was religious experience desired? All this in full.

598 answer these questions. Of these 518—232 M., 286 F., report new religious inclinations between 12 and 25—mostly 12 to 20, while 80—60 M., 20 F., report no religious emotions.

More than 5 out of 6 have had these religious emotions. This proportion is too small, probably, for those who report no religious interest are mostly repulsed by some creed or dogma. The interest exists aside from the church. The returns show that religion before this age was a mere form. Now it becomes full of meaning. It is a new interest and very many speak of it as a sudden awakening. It is spontaneous, like the interest in art or music, or the love of nature. Where no set forms have been urged, the religious emotion comes forth as naturally as the sun rises. There are many doubts, but they all center around some doctrine insisted on by the church, which contains no religion at all. One does not see her way to be a Christian because she cannot tell which denomination is right.



Another is repulsed by the doctrine of total depravity. Others doubt some phase of common belief. The Christian Endeavor is a good object lesson as to the value of giving adolescents untrammelled opportunity to serve God and perform religious duty.

The missionary spirit is very strong. The desire to travel, to make new and wide acquaintances, to break with present surroundings, to sacrifice self for others, and especially to do all these in a religious cause, appeals with insistent force to the adolescent. A discussion of religious teaching will be given in the pedagogical conclusions.

F., 20. Have become much more religious since 12. Prayer means much more. God seems so real, kind and helpful. The perfect life of Christ is a helpful contrast to the life of men. I have desired to go as a missionary.

M., 21. A marked change in religious thought at 17. I think I was just ready for it, so it came.

M., 21. New religious feelings. Impulse to missionary work. Many doubts, but put them off till I could understand them.

F., 14 to 15 I became a Christian. I can give no cause for the change. I then seemed to realize for the first time all the truths that had been presented before.

M., 19. Grew suddenly religious in various ways, though not brought up religiously.

F., 18. I feel every year a greater dependence on some higher power. Religious feeling began to deepen and change at 16.

F., 20. At 13 I was very religious and prayed all the time. This all passed away by 15. I began to love God at 14, and about this time joined the church. I loved the service very much. For about six months I had a strong missionary spirit.

M., 21. I could not then and cannot now attend church or Sabbath school. I read the Bible twice each day and pray morning and evening. I look upon life as something glorious and admire all things good and beautiful, but despise to hear men harp on the weakness of humanity. If a preacher deals largely with sublime things, I enjoy it, otherwise not.

F., 18. Not religious. Do not go to church, but pray. Have desired religious experience.

F., 18. At 15 a new feeling toward God. He became a dear Father. I felt unworthy of His love. Felt earnest to work for the salvation of others.

F., 16. Religion was a form till now it has become full of meaning to me.

F., 18. I have had a strong desire to pray since 12. I never tire of praying, it keeps me close to God. My favorite song, "I am a child of a King." Can do nothing without God.

M., 21. Religious feeling deeper than before 12. Stronger inclinations to pray and to do missionary service to the poor. Need new grounds of faith.

F., 17. Since 14 a new religious interest. Have longed to go on missions since 16.

M., 20. Though I had no special reason for it I grew religious. Often alone I melted in tears at the goodness of God. I determined to lead a Christian life, prayed, found great joy, peace and change of life, and all that meant to me.

*Nature.* Was solitude more often sought and companionship of dogs, horses, pets, communion with trees, forest, sky, clouds, moon, wind, stars; was there greater love of flowers, colors, perfumes, bird songs? How otherwise was feeling toward nature in all her departments affected?

The total number of answers was 702. 640 of these—330 M., 310 F., expressed a real love for some form of nature, while 62—28 M., 34 F., were not fond of nature. Love of nature therefore exceeds everything else reported in these returns. Over 90 per cent. of those answering were lovers of nature.

No one form of nature seemed to predominate, but in all there was a longing to get near to nature in some of her forms. This love of nature in the time of its appearing, and the curve representing it, are almost the same as those of the religious emotions. It is really a religious instinct and the child is finding God through nature. It is a wide-open door to all religious culture.

The returns indicate that adolescents find a delightful and unique sympathy in nature. Nature seems to teach them rest and self-control. They flee to it as a refuge from all the elements that are warring within their own souls. To many it seems to be the very support of life itself. It gives a time for thought and meditation which the awakened soul now demands. Several associate these moments with nature, with divine worship. Others find strength in trees, moral courage in rocks, activity suggested by the waving of trees and running of streams.

The years when the feeling was most prominent range from 6 to 20. But the curve begins to rise rapidly between 11 and 12, culminates at 13, 14 and 15, falls somewhat at 16 and then rapidly till 20.

Record was kept of the animals preferred as pets with the following results:

Total number of votes cast,		230
	MALE.	FEMALE.
Dog, . . . . .	21	45
Horse, . . . . .	20	32
All pets, . . . . .	8	31
Cats, . . . . .	8	21
Birds, . . . . .	5	21
Rabbits, . . . . .	2	3
Squirrels, . . . . .	2	2
Cattle, . . . . .	4	2
Toads, . . . . .	0	1
Chickens, . . . . .	1	0
Tame rats, . . . . .	0	1

Solitude was tabulated separately. 471 answers were received. 307—82 M., 225 F., were fond of solitude during the

years 12 to 20, while 190—133 M., 57 F., were not fond of solitude.

A striking fact is brought to light in returns from reform school boys of 13 to 16 years of age and also in returns from the poorer classes in cities, sent in by teachers. Of the boys in the reform school with over a hundred cases more than 90 per cent. were not fond of solitude. 90 per cent. of the girls also of these lower classes, children of foreign parentage were not fond of solitude. On the other hand exactly 90 per cent. of the other returns were fond of solitude. The biographies of great men show that they have invariably been fond of solitude. "Talent is perfected in solitude." This would seem to indicate that love of solitude is a good index of mental ability. It shows the presence of a mind capable of entertaining itself.<sup>1</sup>

DIsraeli writes.<sup>2</sup> "Solitude is indispensable for literary pursuits. No considerable work has yet been composed but its author, like an ancient magician, retired first to the grove or to the closet to invoke his spirits. Every production of genius must be the production of enthusiasm. When the youth languishes, and feels himself among crowds in an irksome multitude, that is the time for him to go into seclusion and meditation. Where but in solitude can he indulge the fine romances of his soul? Retirement to the frivolous is a vast desert, to the man of genius it is the enchanted garden of Armida."

The curve for solitude is something like that for nature. It ranges from 8 to 25 but begins to rise rapidly from 11 to 12 and culminates at 14 to 15, then falls rapidly and steadily to 20. The intense love of solitude naturally falls thus entirely within the adolescent period.

F., 21. At 13 nature became a real, almost human thing to me. It seemed to respond to a cry for something higher. In the study of it I found sympathy and relief and the germ of higher ideal in the conception of life.

F., 24. I seemed to live through the winter for the sake of the summer when I could return to outdoor life. I felt a passionate attachment to the earth and all things growing on it. I always felt them as a part of my own personality. This was strongest from 8 to 14.

M., 19. Began to like to go out in the woods in rains and storms and to walk alone on very dark nights.

F., 23. One Sunday afternoon, at 14, I stole from the house to the orchard, climbed up into a tree, sat there and dreamed for an hour. I felt as if I wanted to be alone. The same year I was sent through a grove of woods, and found it so beautiful I sat down at the foot of a tree to enjoy it. One night, at 13, I felt a strange thrill of companionship as I gazed at the moon.

<sup>1</sup>Another interesting item with reference to this reform school, which occasions all sorts of suggestions, is the fact that they almost invariably dislike dogs.

<sup>2</sup>*Curiosities of Literature*, p. 136.



F., 17. I have spells when I feel that I must be alone. I think of the past and what I will do in the future. Or I watch objects in nature and think of God. I watch the stars appear one by one.

F. When I was about 13 I enjoyed more than all else to be alone in the woods and fields. I spent hours sitting beside a little brook near my home, and sometimes a whole afternoon in the woods, studying the mosses or vines on some knoll under the trees. Liked pets, and my dog was always with me. Liked to study minute plants and see them at different times of the day and note the changes.

M., 35. The love of solitude, that has been sort of a passion with me, began rather suddenly in my sixteenth year. Sunday afternoon I would go to some quiet nook and indulge in semi-religious or philosophic thought for an hour or so. Then the mood would pass rather suddenly and I would return in quite a different state of mind. Ready for a romp by the time I reached home. Preferred to hunt alone. Under the influence of the silent and over-arching trees I felt a strange, light, soothing melancholy. In the early twenties I developed a fondness for twilight walks in which I indulged in philosophic reveries.

F., 18. At 13 I was attached to a horse and would stay with it by the hour. It got lame and was to be sold, but I cried so it was kept. At 14 to 15 I had a great desire to wear flowers every day.

F., 18. At 14 fond of the stars. Liked to sit alone and look at them. They tell me of God. One night, at 15, feeling sad, I wandered to an old bridge and stayed there for hours. The beauty of the hills, the changing lights, the eddying waters, so affected me that I could not contain my feelings any longer, and leaning my head on the bridge I cried. Soon a feeling of peace stole over me and I went home.

F., 18. I have felt that trees, flowers, and birds understood me. Have hugged a tree and almost worshipped the moon. Intense love of colors and perfumes of flowers.

M., 18. Spend whole days alone in the woods. Like to go alone or with my dog, on horseback, in lonely places. Very fond of these two pets. Enjoy communion with trees and nature in general, but not sky, clouds or moon. Loved flowers as a child, but the love has greatly increased. Their purity and form appeal to me now, whereas it was only color. I have the highest ideals and purest thoughts when I am alone in the fields, mountains, or among flowers I have cultivated.

F., 20. From 12 to 14 I went often at sunset to a wood near home to remain through the twilight. I studied the clouds and thought that the obscuration of the stars was a sign that I was evil.

F., 17. There are a few times that I feel that I must be alone. When sad I like the trees for company. They give me a restful feeling. I have a stronger love for flowers and natural scenery.

F., 18. Before 12 I was uneasy if alone. At 13 I began to like to go to the woods alone. We had company once, and I felt so lonely that I left them to be alone.

F., 40. At 9 I felt the charms of nature no words could express. "I had run through the scale of human experience in most ways at 13 and was like an old woman." "Nothing in later life has seemed so beautiful as the mosses on the rocks where my father carried and placed me at six or seven."

M. The beauties of nature have always seemed the chief part of life. Not fond of solitude.

F. Liked solitude about 15. Preferred seclusion from all friends to review the past and plan for the future.

M., 18. I was greatly moved by a beautiful scene in nature at 15. I could not go on to my destination, but stayed there all the forenoon.

F., 21. Since 18 I have loved to be out in nature for the pure enjoy-

ment of it. It is pure delight to lie in the grass and look up in the blue sky, either in its perfect blue-ness or when heavy clouds are floating about. Never liked poetry on nature because I had no feeling akin to it.

M., 25. Enjoyed the forests and big rocks. Liked to fish and hunt. Had a resort in the ledges near home. Liked to ramble in the woods near cliffs and streams. Enjoyed a bright landscape in summer, when it seemed alive, moved by a gentle wind. I think I always considered the world as God's world and had some thought of Him.

F., 20. She showed few signs of love for nature except for a horse on which she lavished her maiden love. He was beautiful and gamy. She was allowed to drive him when he was all a good man could handle. He was always kind with her. She spent many, many hours in his stall, combing his mane and foretop, braiding them at night, etc. She sobbed wildly when he was sold.

F., 17. I love the wind, it brings a message from God to his child. If despondent I love to walk alone in the wind, it brings me comfort.

M., 24. Since adolescence I like to be alone often. Nature teaches me such profound lessons. Trees seem so mighty to me.

F., 24. I seek solitude more since 13 and much more since 18. I seek communion with trees, sky and stars. I consider them my dearest friends. The sky consoles me when in trouble.

F. From 12 to 13 I cared for no company but that of nature. I had a seat under an oak tree in a small field surrounded by woods and near a small brook. Every day for nearly two months I would sit there and wonder at the beauty of nature which I had never noticed before. Birds, brook, trees and sky all seemed to be my friends. They soothed me when other things annoyed.

F., 18. There is nothing I like better than to be alone for an uninterrupted time of thinking. I love all nature very much better. I wake up to the fact that everything in nature is beautiful when I was eleven.

F., 21. After 14, when my adolescence began, I had a change of feeling toward nature. I loved to get up early and take long walks alone before breakfast. Liked to watch the moon and stars. Loved flowers and wore a large bunch when I could get them.

F., 34. Grew fond of nature at 19. Sorrow sent me to the trees for sympathy.

F., 27. Ever since I was 12 I have preferred solitude a part of the time. This was strongest at 14 and again at 19.

M., 16. I liked pets, to hunt in the timber, to watch the sky, clouds, stars, or any natural object.

F., 17. When young I loved companionship. As I neared maturity I sought to be alone. Would roam over the prairies or sit dreaming of the mysteries of the sky, heaven and earth or of great possibilities. I dearly loved everything in nature.

F., 19. My feeling for nature grows deeper. For six years I have been passionately fond of the woods, sky and flowers. Am fond of dogs, horses, and pets generally.

F., 18. I find exquisite beauty in all of nature's work. I feel a deeper and increasing love for nature and a helplessness, too, in it all that I did not know a year ago.

F., 20. Love to sit alone in the twilight and dream. It seems as if the moon and stars could sympathize with me as no one else can. Two years ago I came to love animals. Did not at all before. I have a peculiar sensation when I go into a great wood. It seems as if one were very near some great power, unseen, but felt, and even the birds and squirrels seem to have wise thoughts about you. You intuitively speak to them.

M., 26. I became more fond of solitude. The mystery of the world, the key to unlock it, some holy grail to harmonize me and the world were sought. The open secret of nature seemed just before me but always slipping away. The world was strange and refused to become familiar. I was a wanderer in infinite time and space.

F., 35. At 8 we were in the fields. I can remember the intense sensual pleasure from the sunshine and colors. Then there was an unaccountable, overwhelming perception of beauty that carried me away beyond the point of self-control and I ran to my mother crying, only answering that it was so beautiful. Another time at 15. I was running down a hillside to meet my sister, miles away from any dwelling, in a deep wood. I stopped with a feeling of awe. There came over me that strange, self-annihilating realization of that beauty which my soul at once named God. I felt that I had perceived God. I had been in his presence in a real sense. From that time God and religion, as I used them, had a deep and vital significance.

*Art.* How, if at all, was feeling for paintings, or pictures generally, affected? Was there more interest or in different kinds? How differently did music affect you? Was it felt more and did taste change? Architecture or drama, etc.? Was an artistic career contemplated?

Art and music were tabulated separately. 472 answers regarding art were received. Of these 361—176 M., 185 F., experienced a new feeling for art in the adolescent period. 136—77 M., 59 F., noticed no change in relation to art.

The returns indicate that 50 to 75 per cent. of young people may have a time when they are deeply moved by the artistic, and the per cent. is very large of those who decide upon an artistic career while this fervor possesses them. This desire usually lasted only a few months or at most a year or two. It is not a sign of unusual artistic ability, but the new, impulsive emotional nature is awakened for the first time to artistic possibilities. It is the mind's way of unfolding. Next year it may be music, and art may be very distasteful.

The change of taste in art was regularly from bright-colored pictures of children or people or animals in action to quiet pictures of still life or nature. Several adults still feel that a picture is defective unless there are persons in it.

In the years 14 to 18 many spoke of loving only those paintings which represent deep feeling or portray the soul of the artist, such as "Breaking Home Ties," and the "Madonnas." The curve for the love of art begins at 10, rises rapidly till 12 and falls steadily after 15, reaching the base line at 20. It is one of the first awakenings of the adolescent mind.

566 answered regarding music. 464 of these—215 M., 249 F., have had an increased love of music, amounting in very many cases to a passion, which, however, soon passed away. Only a small per cent. still desire to make music a profession. 102—62 M., 40 F., experienced no change in their musical taste. The curve for love of music corresponds almost exactly to the curve of love of nature. It starts at 10, culminates at



15 and falls rapidly after 16. Numerous cases are reported where everything was given up to music for a year or two and then it was dropped. They say themselves that they were never equipped by nature for a musical career.

F., 20. Contemplated a musical career, 15 to 16. I imagined myself the greatest musician in the world. I could see the audiences fairly spellbound, hear the applause at the end and see the handkerchiefs wave. Now it is all past.

F., 19. I always meant to be a great artist. At 17 I purchased an outfit and began. The spell soon passed away.

M., 22. Deep and discriminating love for pictures came at 18. Enjoyed architecture. Music greatly disturbed me as a child and always made me cry, yet I liked it.

F., 18. I am fond of painting. Long to be an artist. Music fills my soul with rapture. Experienced a great change for wall-paper, architecture, and everything artistic.

F., 23. At 13 I used to dream of being a great musician. I never had any aptitude for it.

F., 18. I grow more fond of art and music. Have thought that I would like to be an artist, but really have no talent for it.

F., 22. Took great delight in pictures. Pulse quickened at the sight of a fine painting. Music often made me cry.

F., 18. I see the soul of the artist now in the picture.

F., 19. From 8 to 12 I liked pictures of birds, boys and girls. Now I like pictures in which there is sentiment. I feel music very deeply, it often makes me cry.

F., 23. At 15 decided to be a musician. Saved all my money to go abroad to study. It lasted only a few years.

F., 18. At 13 I longed to be a sculptor. That passed and now I long to be a musician.

F., 21. Love of melody and rhythm began to decrease and the possibilities of music as a means of expression has developed into an intense love of the musical drama.

F., 18. In our house hung Angelo's Madonna. I hated it and would make terrible faces at it as a child. At 15 it suddenly struck me with a beauty that nothing else has ever made me feel. The Madonna came to be my ideal. Taste in music changed from that with a strong rhythm to quiet, soft, dreamy music. At 7 I was to be an artist, at 13 a musician, at 15 an artist again. Now neither of them.

F., 17. Like landscape paintings. As a child I wanted to have persons in a picture. Do not like music.

F., 17. I used to like pictures of children in action. Now I like classical work.

F., 61. I adored pictures, paintings, and longed to be able to make them myself. I loved dreamy music and at that age would have given worlds for an opportunity to learn music.

*Literature.* What change was noted in reading? What different authors? What poets, novelists, essayists, historians, biographers, orators, books of travel, etc., were preferred? Was poetry or other literature written? Enlarge here. What literature and what characters appealed most strongly?

313 full answers were received. The taste of those answering was evidently influenced by the literature taught in their schools. Yet as these returns came from 20 States, stretching from Maine to Utah, the results are certainly significant. 453—223 M.,

230 F., have had what might be called a craze for reading at some time in the adolescent period. 70—24 M., 46 F., have noticed no difference in reading. Love of reading is even more noticeable in the case of the biographies studied than in the returns.

Parents seldom realize the intensity of this desire to read. Those who feel it and are not provided with reading, some of which is even sensational in the best sense of the word, may take up the worst kind of sensational reading. It is the golden opportunity to cultivate the taste and inoculate against the worst forms of the reading habit. The curve of this intense desire to read begins at 8, rises to 10, and then rapidly from 11 to 14, culminates at 15, then falls rapidly, nearly reaching the base line at 18.<sup>1</sup>

M., 26. Never had any liking for poetry. Could not commit any of it without changing the words to destroy the metre. Read Shakspeare but did not like it. I was a voluminous reader of all that came in my way.

M., 22. I attempted to write poetic prose and unpoetic verse. Read romance, Kingsley, Scott, Irving, Brontë, then Curtis, Dante, Schiller and Shakspeare. All English Literature, as a study in biography and history, led to a delight in historic study and analysis of poetry.

M., 32. At 14 to 15 read the life of Napoleon. It made an immense impression on me. I tried to dress and act like Napoleon, copied dozens of pictures of him.

F., 21. From earliest childhood I have been an omnivorous reader of everything but trash. At 13 I was tolerably familiar with the whole range of current novels. And these, plus history, poetry and encyclopedias, furnished all my education till 12. I keep a novel on my study table, and an occasional half hour's reading preserves the balance in college life.

F., 18. Used to like fairy tales. Now my favorite is *Les Miserables*. A passion for poetry followed that for art and music.

F., 18. At 13 craved history and religious literature, then novels and plays. Had a craze for the opera. Used to write poetry at 13. Now literature pertaining to God and nature appeals to me most.

M., 18. As a child I was delighted with fairy tales and characters in action only. Became a great reader of fiction and poetry at the adolescent period.

M., 19. At 16 I got the idea that I was to be a great novelist. In the garret I wrote great works. Some of them had titles like "The Black Hand," and "The Lost Lover Reclaimed." I pictured countless admirers.

F., 19. Like to read Longfellow for his sympathy. Great admiration for Milton and Shakspeare and Lew Wallace.

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<sup>1</sup> A record was kept of the authors read and preferred. Of poets, Longfellow led more than two to one, having 237 votes, Tennyson 125, Whittier 104, Shakspeare 72, Holmes 53, Bryant 43, Mrs. Browning 21, Lowell 16, Wordsworth 15, etc. Of historians, Bancroft and Macaulay had most votes. Of novelists, Scott had 126, Dickens 112, Alcott 89, Eliot 64, Hawthorne 46, Roe 35, Stowe 24, Cooper 22, Lyall 21, Thackeray 17, Lytton 17, Lew Wallace 16, etc. Novels received 812 votes, poetry 797, essays 67, history 37, travel 30.

F., 17. First liked fairy tales, then novels, then books of travel. Wanted to write stories, tried and failed.

M., 35. My poetry period extended from 20 to 23. I read all of Burns' poems, much of Wordsworth, Byron, and Shelley. Also some of Moore, Mrs. Browning, Coleridge, Lowell and Longfellow. Lyrical and nature poetry were most interesting.

M., 21. Longfellow's *Bridge* is my favorite. It is very dear to me.

F., 61. I read everything I could get hold of indiscriminately. I wrote poetry, essays innumerable, and many stories, but destroyed the most of them, sent occasional papers to some periodical, and do not remember having any returned as unworthy of publication, but they never called me, and when printed I shrink from acknowledging myself as the author.

F., 23. I was allowed to read just what I chose, and chose to read everything I could get at 13. For two years it was a great passion.

F., 19. Like poets best. They came in this order. Whittier, Longfellow, Bryant, Shakespeare, Wordsworth. Hope sometime to enjoy Browning.

F., 23. I read *Ivanhoe* many times at 13, so that I could repeat pages and pages of it. Passionately fond of Roe's novels at 14. Poems of nature, especially Scott's "*Melrose Abbey*," and Tennyson's "*Saint Agnes Eve*," and Longfellow's "*Legend Beautiful*," were imprinted on my memory ever to fade. Whereas poems studied and recited as tasks have all faded.

*Science.* Was there more interest in botany, zoölogy, physiology, astronomy, chemistry, geology, physics and other natural sciences? Tell some details.

381 returns were received to this section. 207—122 M., 166 F., liked the sciences. 91—31 M., 60 F., disliked them. A record kept of those preferred shows the following votes for the various sciences:

Total number of votes cast, . . . . . 543

	MALE	FEMALE
Botany, . . . . .	30	111
Zoölogy, . . . . .	24	84
Physics, . . . . .	37	42
Physiology, . . . . .	24	44
Astronomy, . . . . .	24	43
Chemistry, . . . . .	14	30
Geology, . . . . .	14	16
Physical Geography, . . . . .	0	6

M., 23. I naturally liked sciences, but a series of teachers whom I disliked caused me to avoid them and get interested in something else.

M., 20. Very fond of natural history and making collections. Have sat up till nearly morning, I was so interested in studying *Physiology*.

M., 35. From 14 to 16 curiosity regarding my physical nature became very intense. I had a deep sense of mystery. This was increased when I learned that our senses do not report correctly the outer world.

F., 17. A growing interest in science. Wanted to take more than chance offered. What wonders do they reveal to us!

M., 19. At 19 I developed a passion for rare specimens of rocks. Spent hours in old stone quarries. It lasted three weeks. My folks called it another fad.



M., 26. Was interested in Chemistry, Physics, and Botany. It never occurred to me to notice the flowers. It was the book work I wanted. Zoölogy, my present specialty, I did not begin till 23.

F., 17. At 13 I had a passion to study astronomy. I said I *would* study it when I was older.

M., 22. At 14 I had a retreat in the barn where I collected and arranged stones, shells, woods, etc. Would spend hours there. I mean to be a teacher of Botany and Zoölogy.

F., 19. Botany and Chemistry at 16 were liked much. Sciences led my thoughts up to God.

F., 18. Biology produced a great reverence for God.

F., 19. Astronomy first opened my eyes to the boundless glory of the heavens, awakening the first deep realization of a Supreme Being.

*Philosophy, etc.* Did any teaching or study of philosophy, morals, psychology, æsthetics or logic help you personally; if so, what ideas, and how? Did it make or help doubts?

A large number of those who answered the syllabus had never studied philosophy in any form. 194 had studied philosophy and answered the question. Of these 167—34 M., 133 F., have been helped by the study of psychology and ethics. 27 thought they had received no benefit from it. More than six to one had doubts removed by the study of philosophy.

The following typical cases show the general character of the returns and many of the benefits received.

F., 18. The study of Philosophy and Psychology opened new lines of thought and gave broader views.

M., 22. All struggle with doubt came before I studied Philosophy. This served to straighten me out.

F., 24. Psychology has helped me in habits and understanding of children. It has cleared up many doubts.

F., 18. Psychology has helped me form better habits, increased my observation, made me love children more, given me valuable hints on teaching, made me desire to live a better, more cheerful life.

M., 18. Psychology has helped me to understand myself and the Bible and has removed many doubts. The theory of evolution when I saw that it did not contradict the Bible, strengthened my belief in it. The study of habit shows the value of repetition.

F., 21. Philosophy at 13 was destructive, awoke doubts that I could not answer. Made faith impossible. I could not feel assured of anything. Storm and stress. Studied Kant and Hegel and became a Christian through the ethical life thus developed.

M., 20. Psychology has given me an idea of the wonderful work God has created in a human being. Taught me to understand man, animals and a child better.

F., 17. Psychology has made teaching a sacred profession. A teacher must be cautious in her methods and example. It has shown the power of habit, made me observe others, judge less, deepened religion, shown me what a child is, explained educational principles, use of apperception, developed the study of the individual, development in natural order, thoroughness in primary memory. Made me care more for my fellow students, given a desire to study, helped me know myself, shown me how little I know.

F., 24. Psychology has helped me to understand myself, to see the relation of man to the universe, to run our emotions into right channels, and make the body the instrument and friend of the soul. It has removed doubts about God.

## CHAPTER II.

## BIOGRAPHY.

There is a two-fold difficulty in the way when we attempt to gather adolescent facts from biography. In the first place, few writers of any kind have noted the distinguishing mental phenomena of this period, although savage tribes have noticed it for centuries. In the second place biographers would find it extremely difficult—at the time of their writing—to ascertain with any accuracy the adolescent qualities.

The adult person seldom recalls much of the emotional life of his early years. This can be gathered only from diaries, notes, or the recollections of others. A friend may be impressed with the passing mood or condition of another and retain it longer than the one who experiences it. Even the best observers of youth can see but a fragment of what is passing in the soul of the adolescent. It is only when there is an eruption or expression of the feelings that others are made aware of their presence. Since this comes as a surprise to the parent or friend, it may be retained for a long time, while the youth passes so rapidly from one thing to another that he soon forgets particular phases.

A few autobiographies give very full details of early life. Among these Tolstoi's is one of the best. His record is that of a strong, healthy character. Others are more highly magnified but are of more doubtful value for scientific study.

The writer became much interested in a few of these, and undertook to bring together the scattered rays of light from many historic lives. After reading a large number it seemed best to select two whose early lives were quite fully described and two or 30 others from each of the following classes: Pioneer settlers in the west, home and foreign missionaries, actors, artists, poets, musicians, inventors, scientists, novelists and professional men. In all, one thousand have been noted and studied after reading a much larger number.

It may not be too far afield to say here that biography in quantity is quite different from the biography of an individual. One good biography may be very interesting but it is solitary, like a shoot that has grown alone from the ground. A hundred or a thousand are like a large and beautiful tree. The balancing of part to part, the relation of each to each, the beauty and symmetry of each and all, make a majestic whole. After read-

ing a few carefully, a hundred or more skimmed rapidly must prove intensely interesting and very instructive.

I shall first present the results of the 200. They were taken at random from all classes. The list includes statesmen, professional men, business men, explorers, inventors, mechanics, scientists, publishers and others. The attempt was made to make this list as widely representative as possible.

In tabulating the results of the study, therefore, no one rubric would have an advantage, unless we consider that those whose lives are written are prominent and we might expect them to be more interested in literature, science, art, poetry and nature than the average life. The average life, probably, would show like results of less magnitude. Humanity is one, and in those who have had better advantages of nutrition and care in youth, education, experience and help in later years, the common qualities are more fully developed. No new ones are acquired.

The following points have been noted and the results shown below in graphic form. By "nature," "art," "music," etc., we mean an unusual interest in these subjects. Most people like to read, but under literature we have scored only those who had a passion to read everything in reach at sometime before twenty-five years of age. The same is true of the other rubrics. Poetry includes none who wrote merely a few verses but those who wrote good poetry, most of which was published. Under science we have recorded those who had a deep love for it in adolescent years. The other headings will explain themselves and will be more fully understood in the short extracts of the lives given below.

Of these 200 cases then, though often very incomplete, we find 109 recorded as being lovers of nature in adolescent years. Most of these included the love of solitude, as a desire to be alone with nature. 11 were solitaires. 53 have had a passion for some form of art or music. It may have lasted only a few days or weeks or it may have lasted for years.

120 have had a craze to read. 58 wrote poetry. The average age when these 58 wrote poetry is almost 15. The most frequent year is 13.

46 were fond of sciences. 55 had a great desire to go to school. 7 hated school. Of 34 it is said that their senses were very keen and they were good observers.

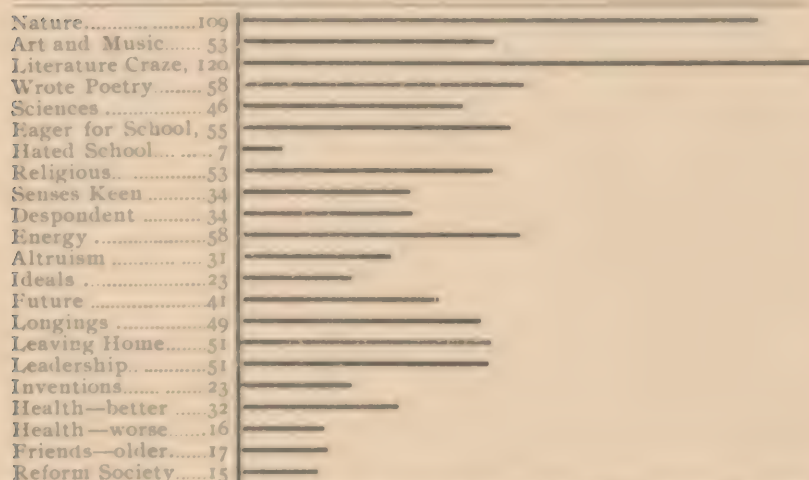
Deep religious emotions are mentioned in case of 53. The years spoken of as the times of deepest emotions and the largest number of conversions are 14 to 18. The average is 16 for conversion or uniting with the church. The largest number is at 15. All of these were boys.

34 have had times of great despondency. 58 mention times of great energy or unusual activity.



31 have shown great unselfishness and devotion to others in the years 12 to 20.

23 make mention of ideals which they imitated. 41 have spent much time planning the future. 49 had deep longings. 51 left home before 20 years of age to support themselves. They often broke with home authority. Average age about 16. 9 showed a deeper love for home. 51 evinced marked leadership in their teens. Useful inventions were made by 23. 32 spoke of better health after puberty. 16 had poorer health. 17 had some friend much older, one had an intimate friend much younger than himself. 15 wanted to reform society. The other points tabulated are so poorly reported that they are not worth mentioning. All the above facts have reference, of course, to the years before 25, mostly 12 to 20. This can be shown graphically thus:



The above chart must not be taken as showing any definite facts. For out of the 200 only 120 report on any of these points noted. 15 is the least number used. If the whole facts could be discovered the result would doubtless be modified very much. It remains a significant fact, however, that out of 200 famous men and women, the biographers should take notice that in their teens so many were lovers of nature, solitude, sciences, etc. And at times, at least, so many had spells of devotion to music, art or literature. This table should be compared with the total returns, which come more nearly from the average boy and girl. Any movement will be towards the normal, as these figures change toward those of the returns.

The following glimpse into the lives of famous people shows the adolescent phenomena, and when read together they give a picture of what any youth may—and most youths do—pass through to a greater or less degree.

It may serve to enable the general reader to recognize adolescent facts in literature if we give them here, briefly, in one group.

Savonarola was a solitary, pondering, meditative boy. He felt deeply the evil of the world and need of reform. He spent a whole night planning his career at twenty-two.

Shelley was unsocial, solitary, and indulged in wild fancies, walking by moonlight alone, gazing at stars and moon. He was deeply attached to a man much older than himself.

Henry Ward Beecher was intoxicated with nature. In college days he "drank in those deep draughts of nature that have been the inspiration" of his life.

Goethe was deeply in love at fifteen. He showed a remarkable attachment to his sister and was full of wild dreams and longings.

George Eliot had a passion for music at thirteen and became a skillful pianist. At sixteen she was religious and founded many societies to help the poor and care for animals. She had flitting spells of misanthropy.

Edison attempted to read through the Detroit Free Library, and read fifteen solid feet before he was stopped.

Robert Drury had at eleven a passion to go to sea. Nothing could restrain him.

Seward refused to recite one day in college and left the room.

Tolstoi says in his autobiography: "Did you ever happen, dear reader, at any period of life, suddenly to perceive that the aspect under which things appeared to you had undergone a change? That everything you had seen up to that time had suddenly taken a new and perfectly unfamiliar appearance?" And again: "I have read somewhere that children between twelve and fourteen years of age—that is the transition stage from childhood to adolescence—are especially apt to become murderers or incendiaries. When I recall my own adolescence (and the state of mind I was in one day) I can understand the incentive to the most dreadful crimes committed without aim or purpose, without any precise desire to harm others—done simply out of curiosity, out of an unconscious need of action. There are moments when the future looks so gloomy that one fears to look forward to it."

Much to the surprise of the family he became furiously angry one day. After that he said: "I had a dim consciousness that I was lost forever. . . . I thought there must be some reason, unknown to myself, why everybody hated me." "I am perhaps not the son of my father." This notion seemed even probable. It consoled him. He resolved to thank his father and depart, then sobbed at the idea.

About seventeen, for a year, he was very solitary, thinking on the destiny of man, the next world and the immortality of the soul. It occurred to him that death was always at hand. He cast aside his lessons and spent the day lying on the bed, eating gingerbread bought with his last money.

"I would fancy myself some great man, who had discovered new truths for the good of humanity," yet "was too bashful to meet common people calmly." This illustrates how the emotional life awakens.

"The virtuous thoughts which we had discussed had only pleased the mind, had not touched the feelings of my heart. The time came,

however, when these thoughts returned to my mind with such fresh power of mental revelation that I took fright, thinking what an amount of time I had been wasting, and I resolved that very second to apply these thoughts to actual life."

Tolstoi had a deep religious experience at seventeen. He wept for joy over the new life. He had a period before twenty when he told "desperate lies," for which he could not account. About twenty he had a passion for music, and a little later for the French novel. (These scraps give but a faint idea. His adolescence should be read by all interested in this subject.)

Rousseau had an unprecedented love of history at nine or ten. His emotions were very impetuous. Of himself at sixteen he writes: "I was very uneasy, discontented with self and everything else, weeping without cause, sighing I knew not why."

Keats experienced a great change in his nature at fourteen. "Genius clouded his life and made him solitary." Mabie says of him: "There comes a time in the life of a boy of such gifts when the obscure stirrings become more frequent and profound. The imagination no longer hints at its presence but begins to sound its mysterious and thrilling note in the soul. There is no other moment so wonderful as this first hour of awakening—this dawn of the beauty and wonder and mystery of the world on a nature that has been living only the glad unthinking life of the senses." "It came to Keats in his fifteenth year." "It came with that sudden hunger and thirst for knowledge which consume the days with desire as with a fire, and fill the restless heart with passionate longing to strain the cup of experience at a draught." He was "at the morning hour when the whole world turns to gold." "The boy had suddenly become a poet."

Chatterton was too proud to eat a gift dinner when nearly starved. He wrote good poetry at an early age, and suicided at seventeen for lack of sympathy and appreciation.

John Hunter was very dull and averse to study. About twenty his mind seemed to awake and he soon became an expert in anatomy.

Wm. Jones reproduced "The Tempest" from memory at twelve.

Petrick Henry was about fifteen when he pursued his sports alone rather than in company and would sit by the hour under the shade of a tree watching his line floating upon the quiet waters, the bait untouched by a single fish." He woke up about twenty.

Alex. Murray, at fifteen, in one and one-half years, acquired almost unaided the Latin, Greek, French and Hebrew languages and read several authors in each.

Mr. Gifford (Pub. of Quart. Rev.) was restless and discontented because he had nothing to read. He went to sea at 13. Bound out to a shoemaker, he beat leather smooth and with an awl worked late at night on alpinas. At twenty he says: "I had a period of gloom and savage unreasonableness. By degrees I took into a kind of corporeal target, or if rounded into activity by the spirit of youth, was the creature in athletic and vigorous tracks, which alleviated the few acquaintances which compassion had yet left me."

Rittenhouse at fourteen, when plowing, covered the fences with numerical figures. "He held the plow and thought of infinite time and space." "Every pebble and flower taught him a lesson."

Edw. Thompson had a passion for sciences about fifteen. Fond of experiment: "His fire-works exploded while he was trying to make them, and he was badly hurt." At seventeen he walked nine miles back every day to attend philosophical lectures at Cambridge. At nineteen he married a widow of thirty-three.

Franklin Arverton had a passionate passion. About thirteen he



read poetry all night. He wrote verses and sold them on the streets of Boston. He doubted everything at fifteen. He had a wandering spirit and left home at seventeen. He started the first public library in Philadelphia before he was twenty-one.

Robert Fulton was poor, dreamy, fond of nature, art and literature. He had a mercurial temperament. He determined to be a painter and showed talent, but gave it up for poetry. He left home at seventeen. He invented many valuable things besides making the steamboat.

Samuel Bowles planned and started the Daily Springfield Republican at eighteen.

Bryant was a very precocious boy. His health was poor till fourteen when he changed to permanent, good health. He was a devoted lover of nature and began to write poetry at nine. From twelve to fifteen he was deeply religious and prayed for poetic genius. He wrote *Thanatopsis* in his eighteenth year.

Jefferson was passionately fond of nature and animals at fourteen. At seventeen he studied fifteen hours a day.

Garfield, though living in Ohio, said: "Mother, you don't know how I long for the sea. I want to see something of the world." In after life the sight of a ship gave him a strange thrill.

Hawthorne wrote poetry early. He had a passion for the sea. "I should like to sail on and on forever and never touch shore again." Of his life, about fifteen, he wrote: "How well I recall those summer days, when I roamed at will through the Maine woods. It was there I got my cursed habit of solitude." He was haunted with an idea that he would die before twenty-five.

Lowell was very fond of birds and flowers.

"Dear common flower that growest beside the way.

To look at thee unlocks a warmer clime.  
The eyes thou givest me  
Are in the heart and heed not space or time."

Peter Cooper was altruistic from eighteen to twenty, and said: "If I get rich, I'll build a place where the poor boys and girls of New York may have an education free." He left home at seventeen.

Whittier, at fourteen, saw a copy of Burns' poems, which excited him very much. "It changed the current of his life."

Howells wrote an essay on human life at nine. He was on a newspaper from twelve to fourteen, and worked till 11 P. M. and was up at 4 A. M. to carry papers. About fifteen he saw Longfellow's poems. His soul was "filled with this new, strange sweetness."

Aldrich describes his adolescence in his "Story of a Bad Boy." He had a museum of animals, a pet pony, and was a leader and hero among the boys. He published a volume of poems at eighteen.

Holmes had a passion for certain flowers. He wrote poetry at fifteen. He said: "I have the most intense, passionate fondness for trees in general, and have had several romantic attachments to certain trees in particular.

J. T. Trowbridge learned French, German and Latin without assistance before twenty-one. He read Scott, Byron and Moore, and longed to write. He composed as he held the plow, and slyly wrote it in the evening.

Joseph Henry, at ten, followed a rabbit under the Public Library at Albany, and found a hole in the floor that admitted him to the shelves. He took down a book. It was a novel and excited his interest, and, unknown to everybody, he read all the fiction in the library. He suddenly stopped and began Physics, Astronomy and Chemistry. He developed a passion for sciences. He also had a passion for the stage and became

an amateur actor. (He was afterwards President of the Smithsonian Institute.)

J. C. Downey came from Ireland at fifteen. He went south at seventeen, west at nineteen. "His mind was full of visions of broad acres." He settled at Los Angeles.

H. H. Boyesen was deeply inspired by nature and thrilled by the idea that he was a Norseman. He had several hundred pigeons, a lot of rabbits and other animals. He loved to be in the woods at night. When the hour came to leave home for school, he was found, after a long search, with his arms around the neck of a calf, to which he was saying "good-by." He could not leave his pets.

Maxwell, at sixteen, had a horror of destroying a boat, flower, fly or anything.

Jahn writes: "In early life there grew in my heart an inextinguishable feeling for right and wrong—the subsequent cause of my inner weal and outer woe."

Nansen's thoughts "were more to him than his dinner." He ate a bad egg while in a brown study. "Unstable in his studies." He was very fond of sciences at fifteen. His temperament was inflammable. He had deep longings, great courage and altruism. "While I was in my teens I used to pass weeks at a time alone in the forest. I disliked any equipments for my expeditions. I liked to live like Robinson Crusoe, up there in the wilderness."

T. B. Read had a passion for reading from twelve to thirteen. He ran over at seventeen, painted, acted, and wrote poetry. He published a volume of poems at twenty-six. He became a successful painter in oils.

Cartwright heard voices from the sky at sixteen—"Look above." "Thy sins are forgiven thee."

Spencer suggests the loss of the emotional nature in speaking of his completed life-work. Doubtless in earlier years some exaltation would have resulted, but as age creeps on feelings weaken and now my chief pleasure is in my emancipation." His early desire was to be a civil engineer. He entered on that career at seventeen after one idle year. He gave it up for lack of employment at twenty-five and began his literary work. He never went to school. He was for three years a private pupil of his uncle.

Sir James Mackintosh was fond of history at eleven. He fancied that he was emperor of Constantinople. He loved solitude from his thirteenth year, wrote poetry at fourteen, fell in love at seventeen and began his literary work at twenty-three.

Tim Hoxton had a great love for dogs, horses and literature. He combined these by reading while riding on an old horse. At sixteen he loved a literary woman. It aroused all the latent powers of his mind. He resolved to do or die, and took thereafter every possible prize in school.

Webster was fond of nature and solitude. At fourteen he could not rise to speak before the school.

Scott began to like poetry at thirteen and kept his almost reading it. His father sent him to school to study law. He slyly kept poetry and novels in his desk.

Newton was fond of solitude, and at thirteen introduced the paper kite. He tried farming at sixteen, but with no success. He wrote poetry in his teens.

Pascal learned geometry at twelve, alone and contrary to his father's command. He wrote a treatise on conic sections at sixteen and invented his arithmetical machine at nineteen.

Nelson went to sea at twelve. At fifteen he commanded a boat in peril. That same year he left the boat to fight a polar bear.

Joseph Banks, the great botanist, was idle and had no interest at thirteen. About fourteen, he was bathing with other school-boys, came out late, walked home alone and was so struck by the beauty of the flowers by the wayside that he at once started his great career.

Montcalm and Wolf both distinguished themselves as leaders in battle at seventeen.

LaFayette came to America at nineteen, thrilled with the idea of our bold strike for liberty.

Gustavus Adolphus declared his majority at seventeen and soon was famous.

Ida Lewis rescued four men in a boat at sixteen.

Grace Darling, at twenty-two, rescued nine men, when others would not put out.

Joan of Arc began at thirteen to have those "visions" which were the inspiration of her life.

In making the above study my attention was attracted to the early age at which actors won renown. I decided to study a hundred actors and compare them with a hundred of a different class. This proved so suggestive that the study was extended and the results are given below.

The list of actors which we shall consider here includes the most famous that have appeared on the American and English stage in the eighteenth and nineteenth centuries. The age when they made their *débüt*, or at least showed to the world that they had remarkable talent, has been taken and shown graphically in the curve below. The average age of the first great success of these hundred actors is exactly 18 years. The range is 6 to 28 years. A few who were almost born on the stage, and who played before five years of age, are not recorded in this list. The endeavor has been to take those who were attracted to the stage voluntarily. However, a few were sons or daughters of actors and knew no other life. These at some time showed independent ability and that age is taken. Many of them appeared as amateur actors long before they were recognized as stars.

A study of the curve shows at once that this talent is not an intellectual product but a matter of the feelings or emotions. In other words actors are born, not made. They inherit the necessary qualities. They reflect the emotional life of the age. Nearly one half of these were Irish or of Irish descent. England and Wales furnished most of the others. The pure American stock has furnished comparatively few great actors. We seem to be cold and unfeeling. It may be, however, that the American youth have had so many diversities that the emotions have been scattered along other lines.

The curve shows that few make a success on the stage for the first time after 22. From 16 to 20 is the time to expect talent in this line. The second rise of the curve may apply to another distinct class of actors who act more from the intellectual



and less from the emotional standpoint. The same may be noticed in the curve of poets and missionaries—a rise after the general fall. The long life of many actors, and the wealth of feeling displayed even to the last, shows that the emotional nature, if cultivated, need not be lost in later years, as it seems to be in many lives.

I have placed on the same line with actors the curve of a hundred novelists. I took the age of the publication of their first story that met public approval. It is fair to compare it with the curve of actors, for their curve represents the first success.

The difference is striking. One is a product of emotion, the other more of the intellect or intellect touched by emotion. While 90 per cent. of actors were famous before 22, only 4 per cent. of novelists wrote acceptably at that age. This would indicate that the merely emotional novel fails. Imagination, observation, and a close study of human life and character seem to be required to write successfully. The actor has the intellectual product before him. He must feel and interpret.

Miss Porter, Miss Alcott and Miss Phelps are among the earliest novelists. The list is taken mostly from American writers, for, so far as possible, I have chosen to study our own life and times. The curve is a poor one, for it needs a larger number of cases. The exact dates are given, however, so it is correct for this hundred cases. The dips mean only a lack of numbers. The average age of these writers at the time of publishing the first novel is 31.65 years. The range is 12 to 51 years.

The next curve shows the time of publishing the first poem or volume of poems by 53 different poets. The curve is influenced by the fact that some did not publish till long after they had written well. It shows, however, that the emotional, adolescent quality enters much more into poetry than into the novel. The average age of first publication that showed talent is 18.1, thirteen years younger than the novelists. The range is 9 to 50. The 53 above noted in the 200 wrote poetry at 15, on the average. None are included in his list of poets, for only a few of them were poets. All of these 53 wrote much earlier than 18. The time of first publication is taken so as to compare it with novelists.

With the curve of the poets I have placed a curve of 50<sup>th</sup> inventors, taking the age of their first patent. There is not much poetry or emotion apparently in inventions. It requires cool, intellectual work, touched by enthusiasm. The average age is 33.8. They range from 18 to 54. The younger ages are not associated with the most valuable patents.

The next pair of curves show the greatest contrast. They are 100 musicians, mostly Europeans, and 100 American men from the three professions—law, medicine, and theology.

Musical talent cannot be compared with anything else in this study. At first it seems to be closely allied to poetry or art. I made the mistake at first of classing them together. They are totally different. Ole Bull at the age of three was filled with music. Others could be cited. The motor development necessary for expression needs to be gained and the musician is full-fledged. We must look back to the remote past to account for this talent of music. We find that animals are strangely affected by music, some agreeably, others not so. Savage tribes are peculiarly susceptible to the rhythm of music. There has been developed somewhere in our history a deep response to the elements of music. It may be that the high musical art of to-day is an adaptation of this primitive quality to the culture and intelligence of the age. The young musician is often from a family of no musical talent. He seems to have developed to a wonderful degree the musical germ which is latent in us all.

The age of first showing rare musical talent is not easily found in biography. This list has been verified from different sources of information, where it was accessible, and the result is approximately correct. Like all the curves, it does not pretend for a moment to be absolutely exact. A much larger number would fill up the dips and make minor changes. I doubt if the general character of any of these curves would be greatly modified. The dips mean nothing. There is a tendency in biographies to avoid certain odd numbers, especially 19, as these curves will show. A general, continuously curved line should be thrown over these cutting the points and passing above the hollows.

The average age of these 100 musicians at the time when they first showed remarkable talent is 9.92 years. The range is 9 to 20. Only about one-half of them had musical parents, so far as the record shows. 95 per cent. showed rare talent before 16.

The age of 100 professional men when graduating from the professional school, is 24.11 on the average. As these were men of the preceding generation, the age is earlier by two years, probably, than of men who graduate to-day. Ten years should be added, without doubt, to this average to mark the point of recognized success. This would place them close to the novelists and inventors. The professional men were all men of renown. In all but a few instances they were college educated. Only 8 per cent. began their professional work before 21.

The next curve shows the age of the development of the artistic ability. 53 artists were taken, mostly American. 90 per cent. of them showed talent by 20. The average age is 17.2. The range is 6 to 30. 50 fall between 10 and 23 years. The curve is very close to that of poets in time of development.

They seem to be different ways of expressing similar emotions. Many of the poets in this list were artists, and many artists were poets.

With that may be seen the curve of 50 missionaries. It represents the time of departure to the field of service. The curve is not so significant as the "Student Volunteer" movement and the Christian Endeavor. These show the enthusiasm and the altruistic, self-sacrificing, religious zeal of adolescence in a remarkable way. The Y. P. S. C. E. would make a valuable study in adolescence.

The next curve represents graphically the ages when 100 pioneers, who have made their mark on the civilization of the far west, left their parents and home to seek a fortune amid the dangers and hardships of the unknown land beyond the Missouri River. We get its import only when we consider what it meant sixty years ago to cross the prairies in "schooners," in constant danger from Indians, fires, etc., into an unknown and barren tract. Yet we find these boys leaving home at 17.6 years on the average. The range is 10 to 26 years.

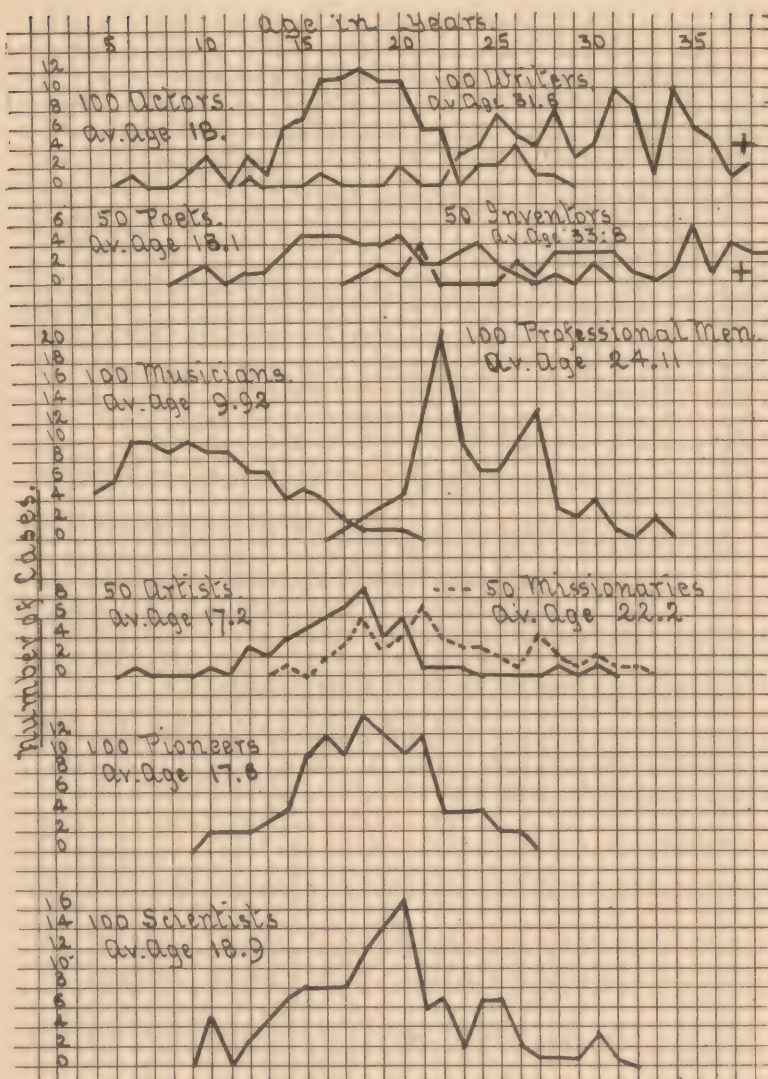
The last curve is that of 118 scientists. So far as possible I have taken the age when their life interest first began to glow. It has been hard to determine this exactly. I suspect that in many cases the real age is a few years younger than I have indicated. The dips in this curve, especially, are not significant. 18 of these are taken a second time from the list of 200, but used here because they helped fill the dips of the curve of 100. They did not change the general outline. The average age is 18.93 years. The range is 10 to 30 years.

These curves easily fall into two classes, the emotional and the intellectual. The actors, poets, artists, pioneers and scientists—*i. e.*, the beginning of the scientific enthusiasm—represent one class which shows very clearly the emotional enthusiasm of adolescence.

The writers, inventors and professional men, although, perhaps, showing enthusiasm or emotion, win their success more in the realm of the intellect. The curves of the first class culminate at 18 to 20 years. The second between 30 and 40.

Of course the mature poet and scientist combine in a rare way emotion and intellect. Neither can be totally wanting in any successful life, yet these curves plainly show that the one predominates at certain times and the other at other times. The tendency seems to be for the emotion to ripen into the more intellectual phase. It seems to be a universal fact that intellect grows out of the emotion. Feeling, knowing, willing, is the order.





I can but feel that these lives teach a tremendous lesson. They show, to me at least, that a well balanced, healthy, well bred, fine grained nervous organism will very likely have deep and fluctuating interests or enthusiasms.

Instead of the regular repression now almost universally practiced toward what many may be pleased to call a craze or

fad, these should be encouraged. The boy or girl should be pushed into them, and the glow should be turned, if possible, to a white heat. There is no danger of a shallow, fluctuating nature as a result. The very opposite will be true. The well-poised man of many sides, who, although a specialist, sees the value and bearing of all other branches of knowledge on his own subject, cannot well result from anything else. To repress or discourage such tendencies limits our horizon at once. It never should be done.

See the boy Edison as he begins to read through the Detroit Free Library. Fifteen solid feet of the task completed with all the eagerness of a hound in the heat of the chase. It means a great brain. It is necessary to burn out these minor interests, touch the farthest point on this, that and every side. That gives the basis for magnificent productivities. They will be useful because the man has touched the bounds of life. He commands the whole range. The same is true in the case of Joseph Henry or any of those cited above. They are all normal and healthy.

On the other hand a deep, silent, moody, lost condition of mind may prevail. Patrick Henry is a case in point. Some of the best minds have shown that dreamy, absent-minded quality that may mean that the boy or girl has awakened to a world of thought so vast that the mind wanders to find a basis for activity. They need encouragement. A rope should be given them that is tied to a most vital or self-sacrificing cause.

In a word, the flip, or blasé type is a bad sign. The brown study, or the deep and passionate interest type is promising. A round, full adolescence, with a rich religious experience, is the promise of a great life.

## CHAPTER III.

## CONCLUSIONS.

This study of adolescence has a two-fold bearing. It is important from the standpoint of psychology and has a very practical and valuable suggestion for pedagogy. It is not always easy to separate the psychological from the pedagogical, but this distinction will be made here for convenience.

## PSYCHOLOGY.

I. The period of adolescence is the focal point of all psychology.<sup>1</sup>

However we may look upon the origin of the human intellect, whether from an evolutionary standpoint or otherwise, it is easy to conceive that mind as such awoke to self-consciousness at the adolescent period of the first man. Adam and Eve were evidently in the adolescent period when they awoke to self-consciousness.

The spirit of rebellion against authority and the whole account of the later scene in the garden is typical adolescent psychology. If we take man as an evolution, we must think of him as coming to self-consciousness in this period of life when the pendulum swings farthest and there is the greatest ferment known in the individual history. In other words adolescence is the time of the soul's awakening both in the race and in the individual. From this first awakening, mind has pushed up to full rational self-consciousness and then directed its attention backward over the path of its development to pre-adolescent stages, including not only the psychology of childhood but of animal life down to the lowest traces of intelligent activities.

Adult psychology begins in the adolescent period and child psychology with its hereditary influences ends here.

To understand the human mind in later life the adolescence must be studied to find what stages of development have been passed through and in what stages the development has been

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<sup>1</sup> President Hall, speaking of education, has said: "I think we may say, anthropologically, that it (puberty) is the period when education as a conscious, special, or public function began, and that has slowly developed as civilization has advanced, downward to the kindergarten and . . . upward toward an ever-increasing maturity of postgraduate work." *Forum*, May, 1894, p. 303. See also pp. 301-307.



arrested. It is, then, the period on which the study of the psychology of the individual should focus.

II. The characteristics of the psychology of adolescence are, for the most part, distinct. The length of the period is indefinite. It varies with each individual.

The most prominent feature of adolescence is the emotional life. The emotions are not confined to the years 10 to 25, but they are much farther beneath the surface in later life, and can be awakened to expression only by different or stronger stimuli. The emotional nature seems to mature rapidly and nearly reach its maximum before the intellectual or rational side, if they may be separated, has developed. This gives preponderance to the emotions and characterizes the period.

The moods normally are strongest and most fluctuating during adolescence. Despondency, spontaneous joy, love, hate, selfishness, generosity, sloth and energy of both mind and body, all very intense in degree, are strictly adolescent phenomena. They are normally outgrown unless development is arrested.

The growth of the ethical nature and the deep, broad, intellectual interests root in the emotional life of adolescence. If the instinct emotions are properly guided, they will pass over into permanent intellectual interests.

III. The mind, including all psychic life, grows by sections. The interest may center in prize-fights or foot ball one year, and the next in aesthetic culture. The musical side may absorb the energy for a time to pass and be forgotten. The growth of the mind may be compared to a circle which enlarges by extending one sector at a time out to a new circumference.

These absorbing and diverse interests may be compared to separate sectors which push out to reach their final limit. The circumference or final intellectual horizon of adult life is determined, therefore, by the intensity of these interests and the extent to which they are pushed. Many interests enthusiastically cultivated mean a wide intellectual horizon.

IV. The discussion can hardly be laid aside without a suggestion as to the cause of these adolescent phenomena. The idea is often advanced that the development of the reproductive function on the physical side causes these mental phenomena. The present study suggests a different view.

It is true that the curves of most of these phenomena culminate within a year or two of the time of puberty. But some of the strongest adolescent emotions are reported by many individuals as occurring years before or years after puberty.<sup>1</sup>

<sup>1</sup> After writing the above another case was reported by a young man possessing a strong, active, but very calm and philosophic mind, who

The strongest adolescent symptoms are found in the most highly developed organisms which are farthest removed from the physical or brute nature, and where reproductory power is often very weak.

Dr. Scott<sup>1</sup> showed the relation between sex and art and took the position that art is an irradiation of sex. It might well be shown that there is a similar relation between sex and other things. There are many irradiations of sex. School and college life is one. Sex does not cause art any more than sex causes intellectual ability, but both draw their vitality from a common fountain, and when one draws more than its share the other suffers.

Adolescent phenomena sometimes appear with all their intensity in old age. This is not necessarily a recurrence or a retraversing of the neural paths or channels cut in adolescence, for one person, who has been carefully studied, has passed through an entirely new set of emotions in his senile adolescence which were unknown to him when a young man. In this particular case the sex element was very strong in youth, and the mental adolescence not marked by great fluctuations. After 70 years of age a very intense mental adolescence developed with vivid religious experiences unknown in earlier life.

The adolescent interests seem to depend on the size and quality of the brain in direct ratio, and are inversely proportional to the growth and vitality centering in the reproductive organs. That is, precocious and abnormal use of the reproductive function destroys mental adolescence, with its many sided interests, faster than anything else.

It is true that depression and a desire for solitude, and possibly other similar phenomena, may accompany such degenerate use of this function, but they are of a very different kind from the normal adolescent love of solitude and passing moods of depression. The final reason for my inability to believe that sex is the cause, is the fact that eunuchs have the same adolescent symptoms as others.<sup>2</sup>

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had a religious storm and stress period between 8 and 10 years of age, and about the same time had these spells of elation and depression. He was not precocious physically. He is very stout, with dark hair and eyes, with phlegmatic tendency.

<sup>1</sup> Colin A. Scott, "Sex and Art," *American Journal of Psychology*, 1896.

<sup>2</sup> The following letter is from a professor in a well-known college in New England, who has spent years in the East and has made a special study of the eunuch. The Nubian eunuch is as nearly desexed as possible, and that in infancy.

"There is no question that castration at an early age does in various ways modify physical development, though I do not think it modifies it so much as is commonly supposed. I have seen Nubians, eunuchs,

I have also found several cases of phimosis, which arrested all growth of the organs, but did not apparently affect in the least the mental adolescence. The effect of castration on animals, arrests development of organs of combat and makes other changes. We cannot argue here from animals to man. Man learned long ago to rely on brain more than brawn. Castration or arrested development does not make changes in man which are comparable to the changes made in animals.

The physical change of features at this time suggests another reason for these adolescent phenomena. They indicate a change of hereditary influences. From the moment that the spermatozoon unites with the ovum there is a conflict of hereditary influences between the two, that the life contained in each may assert and express itself. Common observation shows that this conflict of these microscopic elements, even in the closed apartment, with all nervous connections to the rest of the body as yet undeveloped, is so violent as to cause a disturbance of the sympathetic and vaso-motor systems.<sup>1</sup>

The fact that the type not only of features but also of family characteristics may change at adolescence, shows that these forces are still prominent and are struggling now in final conflict for the mastery and the opportunity of self-expression. This war of propensities, which causes or results in changed external features, is sufficient ground for the occasion of the adolescent mental phenomena. It is not the cause. It is also the occasion of the later development of the sex organs peculiar to the

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and Nubians, non-eunuchs, together, and in every physical feature they resembled each other. The difference most likely to be observed was in the voice. Castration does produce an immense effect, though an indirect one, upon the character. It is not the operation in itself, but its effects upon the mind. The mind broods over the fact that the body is reproductively impotent and is filled with morbid resentment and jealousy. No other physical deformity can so far distort and mar the character. As far as I can judge, sex feelings seem unmodified by absence of the sexual organs. The eunuch differs from the man, not in the absence of sexual passion, but only in the fact that he cannot fully gratify it. As far as he can approach a gratification of it, he does so. Often, maddened by sense of impotence, he seeks vengeance on the irresponsible object of which he is enamored.

The eunuchs have all the adolescent phenomena. I have watched, for example, boy-eunuchs of ten or eleven years, possibly younger. Early conscious as they are of their dejected condition, there was nothing apparent in their moods or pleasures different from other children of their race. They took the same delight in a perfume or a flower, or a pretty baby as any other boy of their race would have done. The little eunuch is more inclined to solitude than almost any Western child, but perhaps no more than his compatriots. As to rebelling against authority, I have more than once seen a diminutive eunuch do that."

<sup>1</sup> This would indicate that the protoplasmic conditions of interaction of parts is not entirely lost in the differentiated organism. The protoplasmic communication is intermolecular.



individual which will very likely be characteristic of the parent or family which he resembles in mental and physical characteristics. The cause must lie much farther back in the, as yet, unknown forces of life itself. When we know what life is, and where differentiations begin, we may speak of the cause of adolescent phenomena.

#### PEDAGOGY.

I. *Sex Hygiene.* A woman reports three daughters. The oldest had her first sickness one month before 15. The next, 19 months younger, learning this phenomenon from her sister, followed in three months. The other sister, who was 11.5 years of age, followed in six months. A girl, 11 years old, very small and not precocious, was told what to expect, her mother not thinking it would occur for years. In a short time the daughter came to puberty. Another girl, verified by her mother, reports the power to control the menses. She can put it off a week at will. The question arises as to the possibility of precipitating the menses by suggestion. It is probable.

Pedagogy demands, then, that we do not wait till near the normal time, lest the instruction direct the attention, increase the circulation, and cause unfortunate precipitation. On the other hand several cases are reported where girls knew nothing of it, were ashamed to tell, bathed in cold water, with the result that one was thrown into spasms, causing insanity, that was only outgrown after the reproductory period. Another was rendered insane in a similar way. A third went into spasms which resulted in death. Other similar cases are reported. The information could be given in many different ways that would not demand any alarming predicament for the parent whose false modesty is so criminally superior to his or her sense. It is cruel and barbarous to neglect this instruction.<sup>1</sup>

A woman said in substance: When in the High School it was terrible for me, when unwell, to ascend the long flights of stairs to chapel. I asked the principal to excuse me, sometimes. He asked, why? Of course I dared not tell him, so went, but often nearly fainted from the terrible pain caused by the ascent. She explained that she had a broad pelvis, and the bowels pressed down on the uterus, especially in ascending stairs.

A girl reports suffering and fainting from a similar cause.

Teachers should heed this warning. It would be worth more to our girls if some of the ornaments of the school building were omitted and an elevator provided. It is a fact not suffi-

<sup>1</sup> See E. H. Clarke, "Sex in Education." See also Antoinette Brown Blackwell, "Sexes throughout Nature," pp. 138-148 and p. 158. Also *Westminster Review*, 142; 315-318. Excellent on what girls ought to know.

ciently recognized that a girl who is well shaped and developed for motherhood, finds it very difficult to ascend stairs when unwell. It is not only wrong, but dangerous to physical and mental health to oblige them to do it.

Women writers have done harm by saying that a woman can do all that a man can do. A few of a masculine type may be able to, others would endanger their physical and mental health if they attempted it.

The hygienic treatment of boys at adolescence has been almost criminally neglected. It may be quite as injurious to a boy as to a girl to arrive at puberty with no knowledge of normal, healthy symptoms. The simple matter of night emissions, which are likely to happen any time after puberty, though perfectly harmless in themselves generally, cause fears and lead to the very worst evils, such as despondency, imaginary disease, suicide, or a plunge into the worst depths of social life.

Knowing that the young men write confidential letters about themselves to medical companies, I wrote to several such companies asking to read a few of those letters from the young people. They all replied that the letters received never under any circumstances passed out of their hands. Later I found two large letter brokers in one city, who had bought from medical companies, letters which had been written by young people, under a guarantee of confidential treatment, or by older people suffering some private ill, imaginary or otherwise. These letters are sold by the thousand, collected by brokers who rent or sell them to parties for copying purposes. One broker gave me his amount of letters in stock. He has 795,000 "medical" letters referred to above, 1,800,000 "agents'" letters, 275,000 "matrimonial" letters, 300,000 to 400,000 "novelty" letters, making a total of over 3,000,000 letters in stock.

I had in my possession recently a thousand letters, mostly written by young people and sold by these "doctors" or medical companies. It presents to view a sad feature of our social life. The people who wrote the letters were all duped by these quacks, who advertise to cure what they describe in their books as symptoms of syphilis and other terrible diseases, but which are mostly only symptoms of good health. Their prices of treatment are outrageous. One boy had paid nearly a thousand dollars for treatment. He gives his symptoms carefully and they are perfectly normal. The common ill is night emissions.

Some of these letters were written by teachers, ministers, superintendents of schools, and women, who wanted confidential advice. The signatures and addresses were all left on the letters.

It is a matter that ought to receive State and national legis-

lation. But above all our young people ought to be instructed about sex matters.

One boy had run away from a good home because he had been led to believe that he had an incurable disease. His case was perfectly normal. He had read their fiendish literature, was frightened, and dared not talk with his father about sex matters. Another boy said: "I have occasional night emissions. I am poor, but would pay \$500 rather than drift on to the destiny that awaits me if I continue in this way."

Another: "Enclosed \$12. One night emission last month. Have had three packages of medicine. Think one more will cure me." (He had paid \$36 before.) The letters are variations of these with details not to be given here. They show that a dreadful burden of anxiety rests on the young men who are constantly plunged deeper and deeper into despair by these medical companies and "doctors" who advertise to cure such troubles. Their literature can be had by answering advertisements in local papers. This is not a light matter. It strikes at the very foundation of our moral life. It deals with the reproductory part of our natures and must have a deep hereditary influence. It is a natural result of the foolish, false modesty shown by the American people regarding all sex instruction. Every boy should be taught the simple physiological facts before his life is forever blighted by this curse.

II. *Disease and Moods.* The power of recovery from disease at this period is a tremendous fact. The change of nature brought about by change of ancestral influences often causes an entire renovation of the physical system, and diseases which existed at least in symptoms may be entirely outgrown.

Despondency at this period demands sympathetic treatment. It is entirely wrong that so many of our young people are meditating suicide. From their own statement it is because they do not receive recognition and sympathy. They have sprung full-armed into manhood and womanhood in their own feelings, while in dress and treatment they are often forced to remain children. The boy or girl at puberty demands all the recognition that any adult deserves and a greater wealth of sympathy. The wise teacher will not disregard the feelings of adolescents.

It is an open question whether the boy or girl should be urged to work when under the spell of either laziness or great activity. The forces are being accumulated, anabolism goes on when one feels dull, while energy is expended and katabolism is rapid when one feels energetic and must have activity. Each individual must be studied, fatigue noticed and the work meted out in a way to do the least harm.

We must consider that habits of work will be formed and



an endeavor to sustain periods of labor will necessitate, possibly, a levelling of these positive and negative moods.

III. *Ideals.* The universal possession of ideals affords an excellent opportunity for the educator. There are different stages. The period is one when command should give place to the presentation of an ideal, and an ideal adapted to the age and interest of the youth. In early adolescence there needs to be something heroic or self-sacrificing in the ideal.

IV. *Artistic Impulse.* The pedagogic question arises regarding the impulse to study art or music. It should be treated sympathetically and encouraged, but the most unfortunate thing that could happen would be to specialize in these branches. If great talent in music exist it will be apparent before this period, and artistic ability of a high order will show itself as such by the time of puberty. Real talent for either art or music will come to the front anyway. If it does not exist, it would be most unfortunate to launch the pupil into an artistic, musical or literary career. When talent does exist it should be kept back and culture should be broadened and deepened lest that side of the nature develop at the expense of everything else, and in order that the specialty may root ultimately in a rich and cultured nature. Special high schools, therefore, would be pedagogical monstrosities.

V. *Natural Science.* The great love of nature, compared with the distaste for science existing in the same individuals, is a blow at the present methods of killing scientific interests by the text-book method of instruction. 640 were lovers of some form of nature, while only 290 of the same individuals liked any one science. This love of nature should be utilized to develop the scientific spirit in the pupil.

VI. *Interests.* The enthusiastic interests of adolescence demand a pedagogical suggestion. The high blood pressure, the mental and physical ferment, and the potentialities or unconscious forces struggling for conscious realization, demand excitement or violent expenditure of energy at times.

"Excitement young men must have, which, like a breeze swelling new sails, brings the new nerve tissue and faculties into activity without which they atrophy. If there is no enthusiasm, deep and strong interests in intellectual and moral fields, passion is stronger. The two are physiological or kinetic equivalents."<sup>1</sup>

A healthy, normal boy must do something. Athletic, scientific, literary, or artistic interests, or plenty of hard work, is a necessity to keep the physical and mental life pure, healthy and growing.

<sup>1</sup> President Hall, *Forum*, December, 1893: pp. 439, 440.

The enthusiasms of college life develop the college student and make him superior to one who has had no enthusiastic interests during his adolescence. It is especially noticeable in boys entering college from the large fitting schools when compared with boys from schools where there has been little except the text-book work necessary for preparation. The wildest celebrations of victories may do the boys as much good as a long period of quiet study. Of course this enthusiasm must spend itself in moral ways as a laudable outburst of *l'esprit du corps*, or it may be as injurious as it otherwise would be beneficial. If these outlets of energy are denied, immoral gratification of desire will very likely result. The aim of education at this time should be, therefore, to make the most of these interests which are harmless in themselves and not likely to become permanent, to prepare the way for a greater interest in the higher religious and moral sphere and the intellectual interests which are to become permanent.

The pedagogy of adolescence may be summed up in one sentence. *Inspire enthusiastic activity.* Hopeless is the young man who has no interest. Even a low interest pushed to the extreme will give place to a higher. The best in human nature can be brought out by making the most of these stages of development, each in its turn.

VII. *Facial Expression.* The features and countenance are the best indices of character and disposition. If these change radically we may look for a change in character, which will necessitate a change in treatment or injury will result. Just here may be the taproot of so many conflicts, runaways, and sullen, ruined, desperate lives. Many a life tragedy starts with the misunderstanding of the boy or girl at adolescence.

VIII. *Religion.* It is the natural time for the growth of the religious emotions, which are the only basis of a healthy, moral nature. Aside from all relations to a future life, the religious emotions should be regarded as the most valuable of all for immediate results in character. The new birth is no myth, but a fact, admitted by science as well as the church. Religion does not mean subscription to any particular creed. This mistake has been made. The Christian Endeavor movement is a great witness to the fact that religion without particular denominational creeds meets the needs of young people. If the religious emotions are thus cultivated until they are established, the particular forms will adjust themselves with little harm to the individual.

The worst thing that can happen is early forcing of the religious emotion and the subsequent relapse. The religious feeling often comes in waves of increasing intensity. The first may appear in very early childhood, but they reach their maximum



about 16 with the average person. At least 16 is about the average age of conversion for the 600 who answered this question. Each religious wave should be treated sympathetically, but public expression of any particular belief should not be urged before 15 to 20. We should hardly advise marriage when young persons speak for the first time of admiration for each other. It is too sacred a relation. The religious life is far more fundamental in character and more sacred in its relation. Early acceptance of God or Jesus will be urged with extreme discretion by all wise, religious teachers, until the religious nature has been cultivated by a general development of the religious emotions. A study of the cases given under the love of nature will suggest the best method of development. After the nature stage, present the ideal. Hold up noble, religious lives, and let the suggestion leaven the whole nature.

Religion must not be neglected. The welfare of the family and the State depend upon it as much as the interests of the individual soul. Doubts and intellectual questions should all be put off till a later period. The emotional side of religion should dominate childhood and adolescence. It is not the age when fear appeals to one. Adolescents will sacrifice and perform duty for the Master as at no other time in life. Instruction should take the form of an appeal to free, spontaneous loyalty to the King, and Jesus should be presented as the ideal, heroic God-man. His self-sacrifice and self-denial, his suffering and passion may be taught with the assurance that they will appeal most strongly to the soul-life of the adolescent.

Details of school organization and management, and curricula best suited to adolescents naturally belong to this study. The writer has made such a study and may embody the results in another paper.



